VC COMMODORE
OWNER HANDBOOK
Sedan & Wagon
4, 6 & 8 Cyl.

COMMODORE
COMMODORE SL/E
SL/E

HOLDEN GMH

Vehicle Identification Certificate

Owner's Name Mr. Mrs. Miss ....

Address ....

Town ....

State & Postcode ....

Reg. No. ....

Model Name ....

V.I.N. ....

Eng. No. ....

Selling Dealer's Stamp & Signature ....

Date of Acquisition ....

Refer to Page 137 for Pre-Delivery Check and Page 138 for Delivery Certificate.

Message from GMH

Thank you for choosing Holden. Your new Commodore is the product of many years research and planning. We are very pleased and proud of the result—as we are sure you will be. To understand your new vehicle fully, please take the time to read through this handbook and keep it in the vehicle at all times for quick reference. Full understanding of your vehicle's performance, warranty and maintenance procedures will add greatly to your enjoyment. On behalf of all here at GMH, may we wish you and your Commodore many years of happy motoring.

This handbook contains important information necessary for the good performance and maintenance of the vehicle. Please leave it in the vehicle at the time of resale to assist the new owner.

Part No. 92014851

JANUARY 1981

GMH

New Vehicle Warranty

General Motors-Holden's Limited

GENERAL MOTORS-HOLDEN'S SALES PTY. LIMITED

New Vehicle Warranty

GENERAL MOTORS-HOLDEN'S SALES PTY. LTD. HEREBY WARRANTS THAT IT WILL MAKE GOOD, WITHOUT CHARGE, ANY DEFECT WHICH APPEARS IN THE VEHICLE IDENTIFIED IN THE VEHICLE IDENTIFICATION CERTIFICATE FOUND ON THE INSIDE OF THE FRONT COVER

Provided

1. the defect has been notified to an authorised GMH Dealer or Service Dealer:

    (a) before the vehicle has travelled a distance of 20,000 km, or:

    (b) within 12 months of the date of delivery of the vehicle to the first retail purchaser (or in the case of a Demonstrator vehicle within 12 months of the date when it was first placed into service by the Dealer)

    whichever comes first, and

2. the vehicle has been returned to an authorised GMH Dealer or Service Dealer

3. the Dealer has determined that the defect complained of *is* one of material or workmanship and *is not* caused by:
   (a) misuse or abuse of the vehicle such as by racing, rallying, overloading, etc. or by neglect
   (b) operation of the vehicle after it is known to be defective
   (c) accident or deliberate act
   (d) atmospheric fallout or flood, hail, salt, etc.
   (e) failure to carry out proper maintenance service
   (f) alteration or modification of the vehicle
   (g) the fitting of parts or accessories not marketed by GMH
   (h) any work carried out on the vehicle by someone other than an authorised GMH Dealer or Service Dealer,

BY THE DEALER (or as otherwise decided by GMH Sales) MAKING GOOD THE DEFECT BY REPAIR OR, AT THE OPTION OF GMH SALES, BY REPLACEMENT.

Excluded from this Warranty are

- defects in tyres or tubes (these being warranted by their manufacturers), and services such as engine tuning, brake adjustment, replacement of air and oil filters, etc. which are required as part of normal vehicle maintenance.

This Warranty applies only to vehicles operated in Australia and is given to the person who is entitled to possession of the vehicle whether as owner, lessee or otherwise and is given in addition to all rights conferred by law on that person.

Owners of vehicles operated outside Australia should consult their local dealer regarding the warranty applicable to their vehicles.

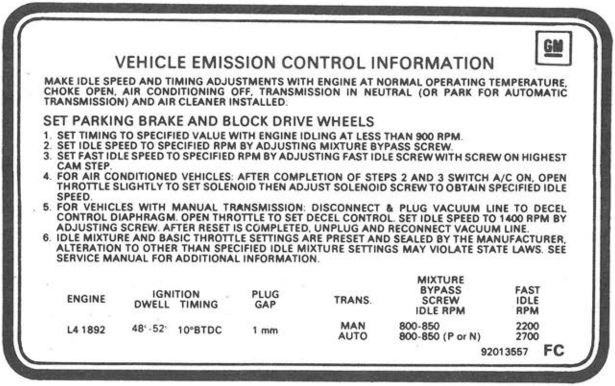
Notice to Customers

No GMH dealer or other person is authorised or permitted to give or make any statement assertion or undertaking in relation to the quality performance characteristics descriptions or fitness for any purpose of any GMH product or in connection with the supply of any GMH product, which is at variance with any written statement assertion or undertaking on any of these subjects given or made by General Motors-Holden's Limited or General Motors-Holden's Sales Pty. Ltd. in its published sales literature, and neither company accepts any liability for any such unauthorised action.

General Motors-Holden's Limited and General Motors-Holden's Sales Pty. Ltd. have franchised dealers in many parts of Australia for the sale of service parts and the provision of service to owners of GMH's products. Every endeavour is made to ensure that such dealers carry adequate stocks of service parts, and are equipped to provide satisfactory service, but neither General Motors-Holden's Ltd. nor General Motors-Holden's Sales Pty. Ltd. makes any promise that such parts or service facilities will be available, or available at any specific location or any particular time.

GMH Parts and Accessories Warranty

General Motors-Holden's Limited warrants in respect of GMH parts and accessories required as replacement parts, that it will make good by repair or at its option by replacement any defect occurring in any such GMH parts and accessories within 3 months from the date of acquisition or in the case of a GMH part or accessory which has been installed in a vehicle by a GMH Dealer or Service Dealer before such vehicle has travelled a distance of 6,500 kms from the date of installation, whichever first occurs.



VEHICLE EMISSION CONTROL INFORMATION

MAKE IDLE SPEED AND TIMING ADJUSTMENTS WITH ENGINE AT NORMAL OPERATING TEMPERATURE, CHOKE OPEN, AIR CONDITIONING OFF, TRANSMISSION IN NEUTRAL (OR PARK FOR AUTOMATIC TRANSMISSION) AND AIR CLEANER INSTALLED.

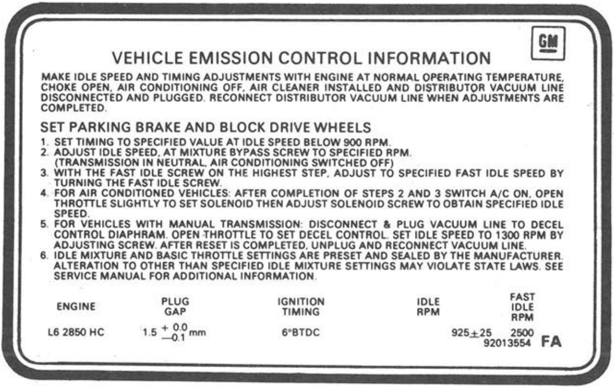
SET PARKING BRAKE AND BLOCK DRIVE WHEELS

1. SET TIMING TO SPECIFIED VALUE WITH ENGINE IDLING AT LESS THAN 900 RPM.
2. SET IDLE SPEED TO SPECIFIED RPM BY ADJUSTING MIXTURE BYPASS SCREW.
3. SET FAST IDLE SPEED TO SPECIFIED RPM BY ADJUSTING FAST IDLE SCREW WITH SCREW ON HIGHEST CAM STEP.
4. FOR AIR CONDITIONED VEHICLES: AFTER COMPLETION OF STEPS 2 AND 3 SWITCH A/C ON, OPEN THROTTLE SLIGHTLY TO SET SOLENOID THEN ADJUST SOLENOID SCREW TO OBTAIN SPECIFIED IDLE SPEED.
5. FOR VEHICLES WITH MANUAL TRANSMISSION: DISCONNECT & PLUG VACUUM LINE TO DECEL CONTROL DIAPHRAGM. OPEN THROTTLE TO SET DECEL CONTROL. SET IDLE SPEED TO 1400 RPM BY ADJUSTING SCREW. AFTER RESET IS COMPLETED, UNPLUG AND RECONNECT VACUUM LINE.
6. IDLE MIXTURE AND BASIC THROTTLE SETTINGS ARE PRESET AND SEALED BY THE MANUFACTURER, ALTERATION TO OTHER THAN SPECIFIED IDLE MIXTURE SETTINGS MAY VIOLATE STATE LAWS. SEE SERVICE MANUAL FOR ADDITIONAL INFORMATION.

ENGINE	IGNITION		PLUG GAP	TRANS.	MIXTURE BYPASS SCREW IDLE RPM	FAST IDLE RPM
	DWELL	TIMING				
L4 1892	48°-52°	10°BTDC	1 mm	MAN	800-850	2200
				AUTO	800-850 (P or N)	2700

92013557 **FC**

1.9 Litre Engine
This label applies only for vehicles sold in N.S.W.



VEHICLE EMISSION CONTROL INFORMATION

MAKE IDLE SPEED AND TIMING ADJUSTMENTS WITH ENGINE AT NORMAL OPERATING TEMPERATURE, CHOKE OPEN, AIR CONDITIONING OFF, AIR CLEANER INSTALLED AND DISTRIBUTOR VACUUM LINE DISCONNECTED AND PLUGGED. RECONNECT DISTRIBUTOR VACUUM LINE WHEN ADJUSTMENTS ARE COMPLETED.

SET PARKING BRAKE AND BLOCK DRIVE WHEELS

1. SET TIMING TO SPECIFIED VALUE AT IDLE SPEED BELOW 900 RPM.
2. ADJUST IDLE SPEED, AT MIXTURE BYPASS SCREW TO SPECIFIED RPM. (TRANSMISSION IN NEUTRAL, AIR CONDITIONING SWITCHED OFF)
3. WITH THE FAST IDLE SCREW ON THE HIGHEST STEP, ADJUST TO SPECIFIED FAST IDLE SPEED BY TURNING THE FAST IDLE SCREW.
4. FOR AIR CONDITIONED VEHICLES: AFTER COMPLETION OF STEPS 2 AND 3 SWITCH A/C ON, OPEN THROTTLE SLIGHTLY TO SET SOLENOID THEN ADJUST SOLENOID SCREW TO OBTAIN SPECIFIED IDLE SPEED.
5. FOR VEHICLES WITH MANUAL TRANSMISSION: DISCONNECT & PLUG VACUUM LINE TO DECEL CONTROL DIAPHRAM. OPEN THROTTLE TO SET DECEL CONTROL. SET IDLE SPEED TO 1300 RPM BY ADJUSTING SCREW. AFTER RESET IS COMPLETED, UNPLUG AND RECONNECT VACUUM LINE.
6. IDLE MIXTURE AND BASIC THROTTLE SETTINGS ARE PRESET AND SEALED BY THE MANUFACTURER. ALTERATION TO OTHER THAN SPECIFIED IDLE MIXTURE SETTINGS MAY VIOLATE STATE LAWS. SEE SERVICE MANUAL FOR ADDITIONAL INFORMATION.

ENGINE	PLUG GAP	IGNITION TIMING	IDLE RPM	FAST IDLE RPM
L6 2850 HC	$1.5\,^{+0.0}_{-0.1}$ mm	6°BTDC	925±25	2500

92013554 **FA**

2.8 Litre Engine (High Compression)
This label applies only for vehicles sold in N.S.W.

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This handbook applies to all VC Commodore models, and explains all equipment including options. Therefore you may find some equipment not installed on your vehicle.

HOLDEN

GMH

For proper maintenance of your Commodore use only General Motors parts, which are identified by one of these trademarks. When it comes to servicing, remember that a GMH Dealer has the trained personnel and specialised equipment to correctly service your vehicle.

All illustrations and specifications contained in this handbook are based on the latest product information available at time of publication approval. The right is reserved to make changes, at any time, without notice, in prices, colours, materials, equipment, specifications and models, and to discontinue models. Check with your Holden Dealer for complete information.

Section 1: Getting to Know Your Commodore

Running In

These days, there's no need to follow a rigid running-in schedule. However, if you observe a few simple points during the first few hundred kilometres of driving, you will add to the vehicle's future performance and economy.

For the first 500 kilometres, don't go over 80 km/h. Up to 1500 kilometres, avoid driving at any one speed — either slow or fast — for any length of time.

Include some higher speeds in your driving. This helps prolong the life of parts and helps with fuel and oil economy. But never drive at high speed until the engine is thoroughly warm.

Full throttle acceleration is not recommended before the car has done 3000 kilometres.

For the first 500 kilometres, heavy braking should be avoided, except in the case of emergency, since brake misuse during this period could impair future braking efficiency.

THROTTLE POSITIONER

4 Cylinder Manual Commodore vehicles are fitted with a throttle positioner.

This device holds the throttle open for approximately 6 seconds during de-acceleration.

This carburettor operation decreases the effect of initial engine braking during de-acceleration which will require firmer than normal brake pedal pressure in these circumstances.

Fuel Economy Tips

How you drive, and where you drive have an effect on your fuel economy. The following pointers will help reduce your fuel bill.

Avoid:

Hard Acceleration.

Excess Loading Weight.

Stop-Start Driving. Plan your trips ahead.

Excessive Speed. You will save on your fuel bill by driving at 80 km/h instead of 110 km/h.

ENGINE IDLING:
If you have to wait for more than a few minutes, turning off the engine will conserve fuel.

HARD DRIVING IN BUILT UP AREAS:
Energy is wasted as heat when braking. Hard driving up to stopping points is wasting fuel, as energy in the form of fuel is needed to accelerate again.

AIR CONDITIONER OPERATION:
By using the vent setting, most of the advantages of the integrated air conditioning system can be obtained in cool and moderate temperature conditions while at the same time using the least amount of engine power.

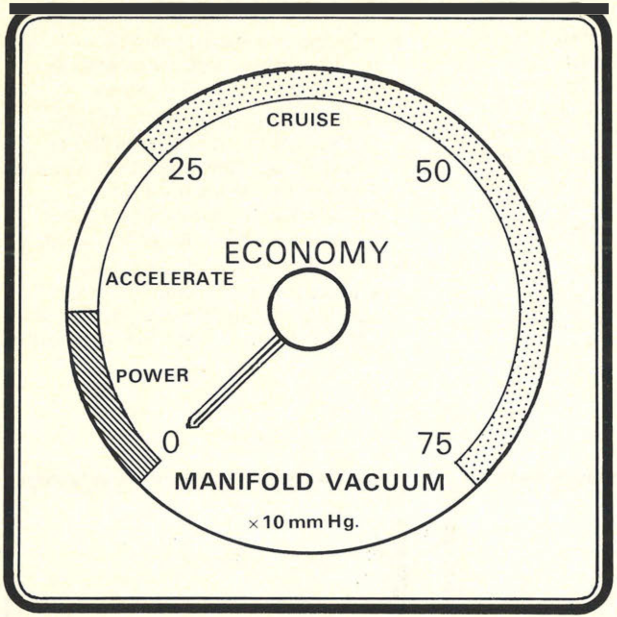
Check:

Air Cleaner Element. A dirty air cleaner element reduces engine efficiency. Replace it at the required intervals.

Engine Tuning. An out of tune engine cannot give good fuel economy.

Tyre Inflation. Under inflation wastes fuel.

Wheel Alignment. Incorrect alignment makes the front wheels drag and puts an extra load on your engine.



Fuel Economy Indicator Helps You Save Fuel

This gauge has been fitted to your Commodore to help you save fuel. It gives a reading which indicates good or poor fuel consumption. You should avoid driving with the needle in the RED zone for long periods as this indicates heavy acceleration power.

The ORANGE needle intermediate zone indicates increased fuel consumption under normal acceleration.

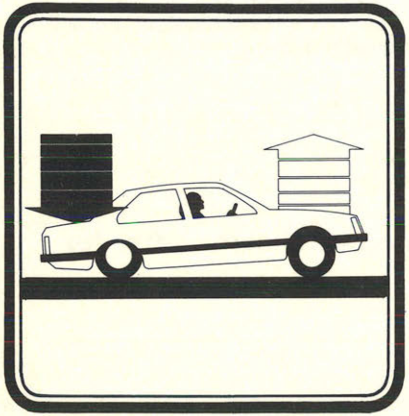
If you keep the needle in the BLUE zone you are operating in a lightly loaded engine mode with even accelerator pressure and better fuel economy.

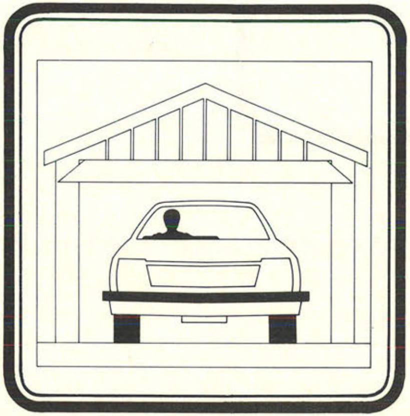
By following the driving and maintenance tips on these pages and by controlling your driving habits with the help of the Fuel Economy Indicator, you will achieve more economical motoring.

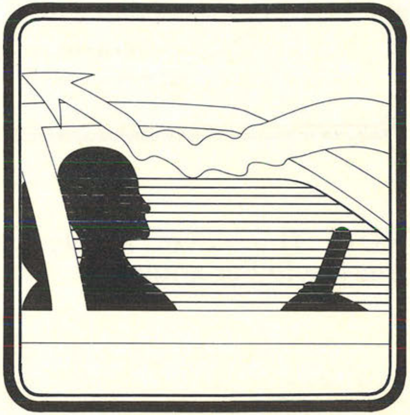
NOTE: The power, accelerate and cruise areas of the Fuel Economy Indicator differ for the 4 cylinder engine.

In order to achieve optimum fuel economy, it is essential to maintain your car in peak mechanical condition. Observe the service schedule set out in this Handbook, and have your car tuned regularly.

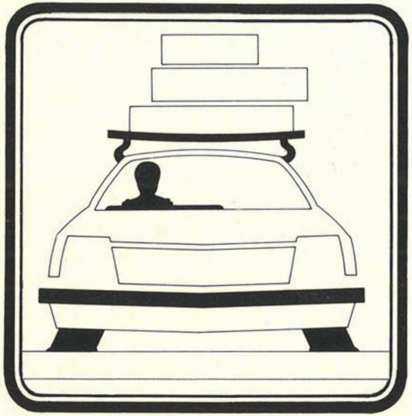
- Ensure that the engine is idling at the recommended speed — fast idling wastes fuel.
- Overloading the rear suspension upsets the aerodynamics of your vehicle by raising the front of the car. The resultant drag increase will contribute to increased fuel consumption.
- Faulty wheel alignment and underinflated tyres create rolling resistance and contribute to increased fuel consumption. Radial tyres produce less resistance than cross-ply tyres and marginally improve fuel economy, but only when properly inflated.
- Long warm-ups in the garage or drive-way are unnecessary and waste fuel. A car takes approximately twenty minutes to achieve its normal operating temperature — and it does this most efficiently on the road.
- Avoid full-throttle acceleration
- Use the accelerator evenly — avoid sudden, jerky movements — they're certain fuel wasters.
- In the interests of efficient fuel consumption, it is desirable to achieve top gear operation as early as possible, but under no circumstances should you force the engine to labour in top gear.
- Driving with windows open affects the aerodynamics of the vehicle, increasing drag and contributing to poor fuel economy.

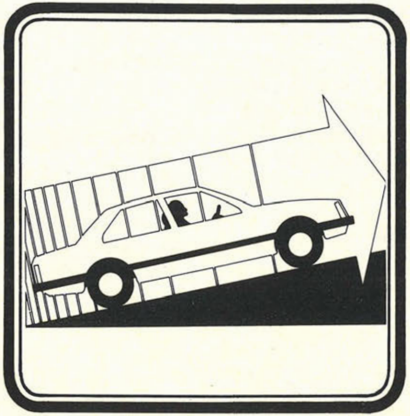


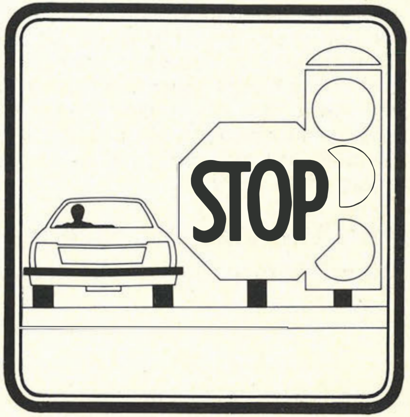




- When driving into a head wind, slow down — the air resistance at higher speeds means higher fuel consumption.
- When loading your car's roof rack try to keep the load as low as possible — thereby minimising wind drag which contributes to higher fuel consumption.
- Check that brakes are not dragging or binding (including parking brake).
- Efficient fuel ignition can only be achieved when points, plugs and timing gear are in good condition and adjusted correctly.
- Avoid driving with your left foot resting on the clutch or brake pedal.
- When driving up a hill try to maintain the same pressure on the accelerator pedal — don't speed up.
- The shortest way to your destination may not be necessarily the most economical way. Pre-plan your trips, taking into account the location and number of stop signs and traffic lights. Select the route with the least number of obstructions to the traffic flow. It may not be the shortest way but it's probably the quickest — and you will save fuel.







Safe Driving Hints

Important

These items are listed as a safety reminder to you. The appropriate section of this handbook should be referred to for a more detailed explanation.

Carbon Monoxide

Avoid inhaling exhaust gases because they contain carbon monoxide, which is colourless and odourless. Carbon monoxide is a dangerous gas that can cause unconsciousness and is potentially lethal.

Seat Belts

Various road laws require the wearing of seat belts. It is important that the habit of using these should be developed by yourself and others in the vehicle. In the interest of safety seat belts should be checked regularly. Your Dealer will inspect and check the belts for you as part of the normal Guardian Maintenance Service. Never attempt to modify or change the seat belt away from the original specification as this will affect the operation of the belts and reduce their effectiveness, in preventing injury, in an accident.

Anti-Theft Ignition Steering Lock

DO NOT turn the ignition switch away from the ON position while the vehicle is in motion as this renders ineffective any power assisted equipment fitted to your vehicle.

Never remove the key while the vehicle is in motion as this will lock the steering of the vehicle and render it inoperative.

Brakes

Driving through water may affect performance. Applying the brakes lightly will indicate whether they have been affected. To dry them quickly, lightly apply the brakes while maintaining a slow forward speed with an assured clear distance ahead until brake performance returns to normal.

Brake pedal travel should not be obstructed by ill-fitting floor mats or any other material under the pedal which causes interference with normal pedal movement.

Power Assisted Brake

Power assisted brakes which are fitted to your Commodore utilise vacuum from the engine when it is running. Never let the vehicle run down steep grades without the engine running. **Never** coast with the engine switched off.

Loose Articles

Do not leave a loose load or articles inside the passenger compartment. Stow articles in the luggage compartment and tie down if necessary.

Petrol Fumes

Always stop the engine and do not smoke or allow open flames or sparks near the vehicle when refuelling. If petrol fumes are noticed while driving, the cause should be determined and corrected without delay.

Parking

When leaving your vehicle unattended:

1. Apply the parking brake. (Refer to page 33).
2. Place transmission selector in:
   Reverse — Manual Trans. Park — Automatic Trans.
3. Turn key to LOCK position.
4. Remove key.
5. Lock all doors and windows.

Tyre Traction

A decrease in driving, cornering, and braking traction occurs when water, snow, ice, gravel, or other material is on the road surface. Driving practices and vehicle speed should be adjusted to the road conditions.

Cooling System

If the cooling system is hot, the radiator cap **must not** be removed quickly — it should be rotated slowly to the first stop, which permits the pressure to release slowly through the overflow pipe. Before doing this cover the cap with an old rag or cloth to avoid possible scalding.

Maintenance for safety

The following items require regular attention in the interests of safety. If anything goes wrong with any one of them, an authorised GMH Dealer will help you.

- BRAKES.
- HORN
- ALL LIGHTS.
- REAR VISION MIRRORS.
- SEAT BELTS.
- GLASS AREAS.
- EXHAUST SYSTEM.
- WINDOWS.
- STEERING & WHEEL ALIGNMENT.
- WINDSHIELD WIPERS & WASHERS.
- TYRES.
- SUSPENSION.

Safety Checklist

Follow these simple steps before driving your new Commodore. They will help make your motoring safer and more enjoyable.

Before getting in

Check that the windows, mirrors and lights are clean.

Check the tyre inflation.

If you intend to reverse, check that the area behind you is clear.

Before driving off

Be sure you understand your vehicle and know how to operate it safely.

Close and lock all doors.

Position your seat for comfortable driving.

Adjust all rear vision mirrors.

FASTEN SEAT BELTS.

Check that the warning indicators light up when you turn the key to start the engine.

Release the parking brake.

Caution: Never leave loose articles inside the car — they may become dangerous if you have a collision or stop suddenly.

Keys and Locks

Your Commodore is fitted with a two key locking system which provides security for personal valuables when parking in car parks or similar areas where locking of the vehicle is not permitted.

Master Key

Master key (plastic head) is retained by the driver and operates all locks on the vehicle.

Service Key

Service key (square head) is left with the vehicle when it is parked in those areas described above and only operates the door locks and ignition switch. This enables the vehicle to be moved if required but does not allow entry to the glove or luggage compartments.

Opening Doors

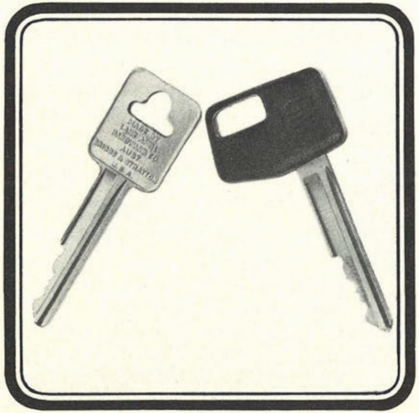
Both front doors can be unlocked with the key from the outside by turning the key to the right, before lifting the handle to open the door.

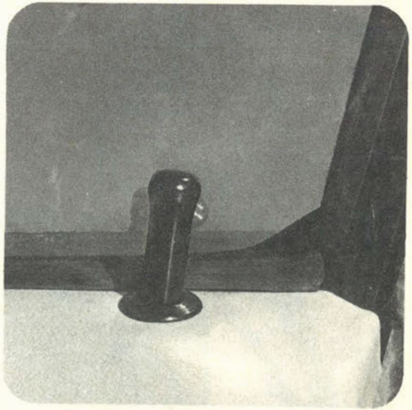
Note: Doors have a free-wheeling lock mechanism. This means that the doors cannot be opened from the outside or inside unless the locking button is raised.

Locking Doors

Inside — To lock, push down the locking button in the window ledge. To unlock lift the button.

Outside — With the door open, push down the the inside locking button then shut the door. Do not slam the door or push the window areas.





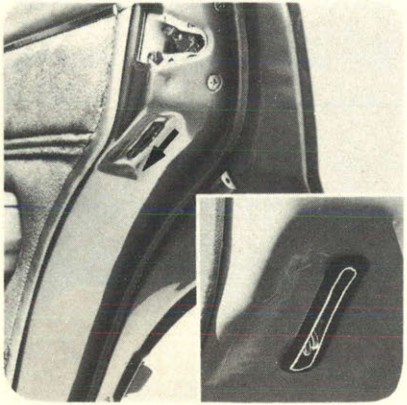
Rear 'Child Proof' Door

This lock is on both rear doors. To operate it raise the lever as far as it will go and close the doors. The door cannot be opened from inside, regardless of the locking position. To unlock, open the door from outside and slide the lever back down.

Electric Door Lock (where fitted)

The Electric Lock System incorporates a solenoid in each rear door and the passenger side front door.
All doors lock and unlock simultaneously when the drivers door is locked or unlocked either with the inside locking switch or the key from outside.

Door locks may be operated manually in the conventional manner. The system has an overload safety control which may render it inoperative. This system requires re-setting after approximately 3 minutes by pressing the red button under the instrument panel on the right hand side of the steering column.



Fuel Cap Lock (where fitted)

Lock or unlock with the master key.

The key code number is stamped on the PLASTIC KEY HEAD. Before placing the key on your key ring, record the code number and place it in a safe place so that if the key is lost duplicates can be ordered from any GMH Dealer by quoting the key code number.

Glove compartment

To lock, insert the key, rotate clockwise one half of a turn and then withdraw.

To unlock, insert the key and rotate anti-clockwise one half of a turn.

To open, squeeze the two slides of the catch together and pull towards you. To close, push lid firmly back into place. This will engage the catch.

COMMODORE SL/E

Rear Locks

A Hint

Door locks may ice up in cold weather. If this happens, warm the key before you insert it. You may have to do this several times.

Sedan luggage compartment

To unlock, turn the key clockwise. The lid opens automatically. The compartment locks automatically when pushed shut.

Electromagnetic Lock Release (where fitted)

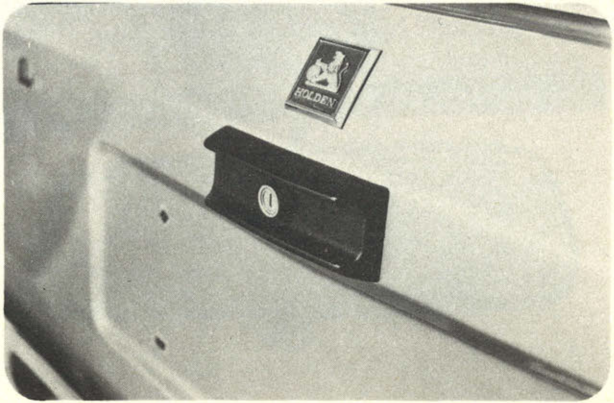
In addition to the mechanical trunk lock release, the trunk lid may be provided with an electromagnetic release system.

With ignition turned on, the trunk lock may be released by depressing the push button switch located inside the glove compartment.

Wagon Rear Door

To open the rear door insert the key and turn clockwise. Remove the key and push the button to open. Gas struts will automatically lift the gate to the fully open position. The door should be relocked when it is closed again.

CAUTION: To prevent entry of dangerous exhaust fumes into the passenger compartment, the trunk should be closed during vehicle operation. However, if it is necessary to leave the lid open while transporting bulky cargo, all windows must be closed to avoid vacuum build-up. Open fresh air heater vents and switch, if necessary, to a higher blower speed.



Rear Vision Mirrors

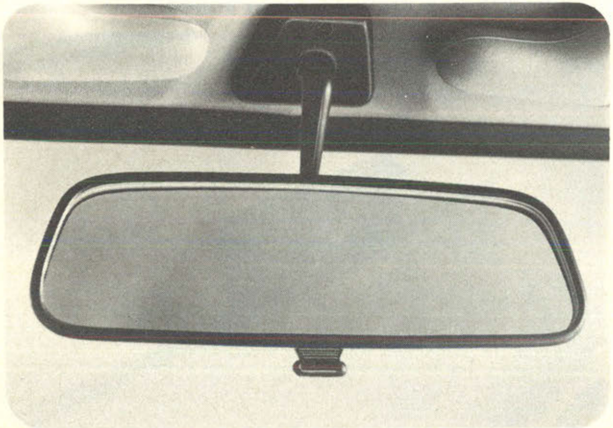
Inside Mirror

This is shatter-resistant, and mounted in such a way that it can be knocked out in case of accident to lower the chance of injury.

Anti-Glare Type

Where the anti-glare mirror is fitted, a control lever on the lower edge of the mirror enables an anti-glare reflector to be used during night driving. This reduces headlamp glare from following vehicles.

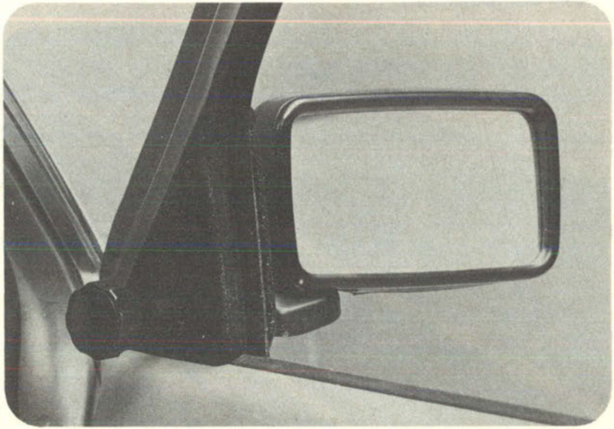
During normal daylight operation, the lever should be set forward. To reduce glare at night, move the lever backwards.



Outside Mirror

This mirror for the driver's door is controlled by the stalk that is located on the inside of the driver's door. On some models a like mirror is fitted to the passengers door and is similarly controlled.

The angle of the mirror can be controlled by moving the stalk. The change of angle of the mirror is in the same direction as the control movement. When selecting the most suitable angle for the mirror, ensure that the driver's head is in the normal position for driving then adjust the mirror angle to suit.



Seat Adjustment

Front Seat Forward and Backward Setting

Rotate the lever at the front of the seat upwards then slide the seat to the desired position. Release the lever. Try to move the seat back and forth to check that the catch is fully engaged. Adjustment should not be made when the vehicle is moving.

Reclining Back Control

The reclining back is controlled by a large toothed wheel at the bottom of the outer side of the seat. By turning the wheel, the reclining position of the seat can be changed through a large angle. The seat back will move in the same direction as the top of the wheel.

CAUTION: To avoid reducing the effectiveness of seat belts it is recommended that reclining seats be used in no more than a semi-reclined position when the vehicle is moving. The fully reclined position should be used only when the vehicle is stationary.

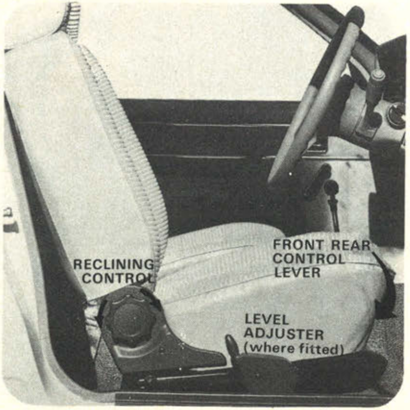
Seat Height Adjustment (where fitted)

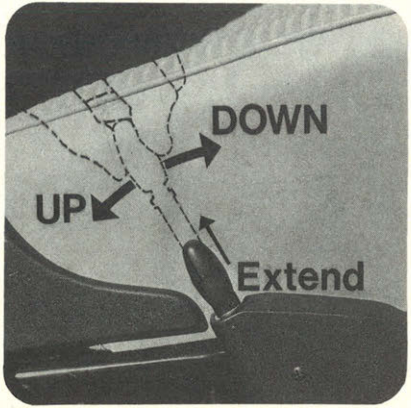
The driver's seat height is adjustable by extending the telescopic lever on the seat outer side and then moving it as indicated in the illustration.

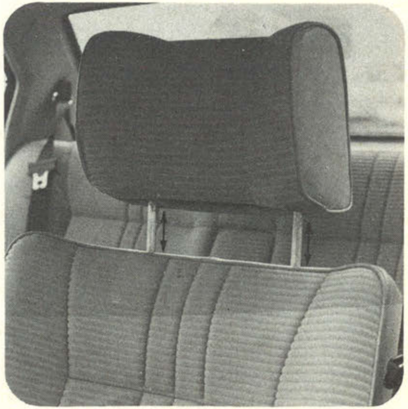
Head-Restraint

This safety feature is not intended to be used as a headrest. It is solely for the reduction of possible injury that may result from a whip-lash neck movement following a vehicle collision. The head restraints are adjustable in height.

Adjust the restraint to have the centre line as close as possible to the height of your eyes NOT of your neck.







Wagon Fold Down Rear Seat

CAUTION: When converting the rear seat always avoid standing on the drivers side if the vehicle is parked at the kerb.

Front Seat Position: The rear seat may be converted even when the front seat is adjusted to the rearmost position.

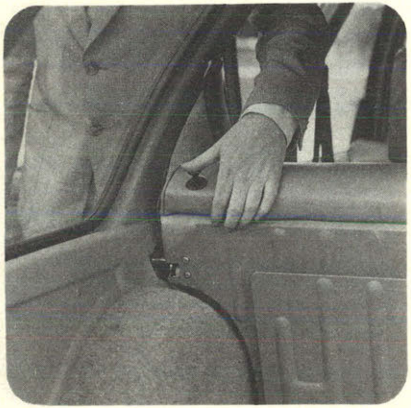
Step 1. — To unlock the safety catches, depress either of the buttons located on the upper edge of the back of rear seat.

Step 2. — The seat back can then be pulled forward allowing the spring hinged floor extension to automatically fold forward.

Step 3. — By pressing the seat-back downwards to compress the seat cushions, the hinged floor extension will drop into place. Apply pressure to the extension and it will lock into its correct position.

Reconverting the Rear Seat

To return the rear seat to it's normal position, 1 press down on the leading edge of the seat back and lift the hinged floor extension. 2 with the extension lifted raise the seat back into its position. Ensure that the seat back is secure in the lock position on both sides and that the seat belts are free of the seat back.



Window Controls

Manual

All door windows are lowered or raised by using the low profile winders which are fitted with safety designed PVC knobs.

Power (where fitted)

Where this option is fitted, the door window operating motors are connected through the ignition switch so that they cannot be operated unless the key is in the ON position.

The master control for the windows is fitted in the console. Both rear door windows can also be operated by individual switches located in the doors. An isolation switch (knob) located on the lower section of the instrument panel to the right of the steering column will override and isolate the rear window switches The system has an overload safety control which may render it unoperational. This system resets after a few minutes.

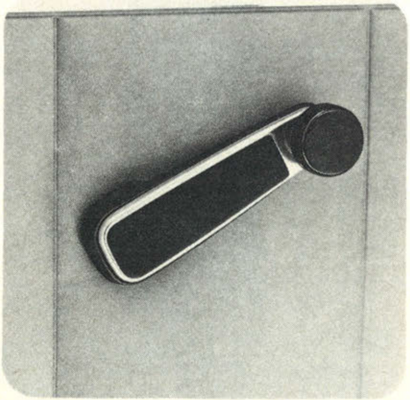
Power Switch Operation

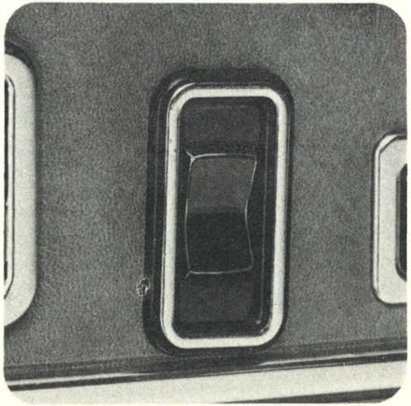
Fitted in Console

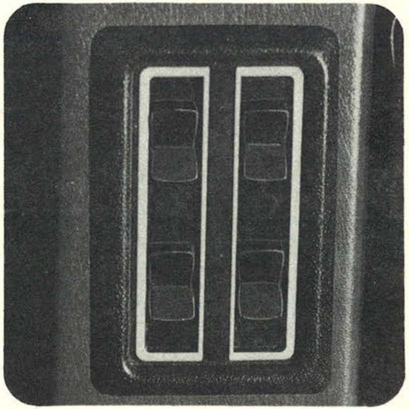
To Raise — Push forwards — towards front.
To Lower — Push backwards — towards rear.

Fitted in Trim Panels

To Raise — Push upwards — towards window.
To Lower — Push downwards — towards floor.







Seat Belts

Study this section carefully. It is important that you understand how to correctly wear a seat belt. You should also ensure that all occupants wear a properly adjusted seat belt whenever the vehicle is moving.

Retractor Belts

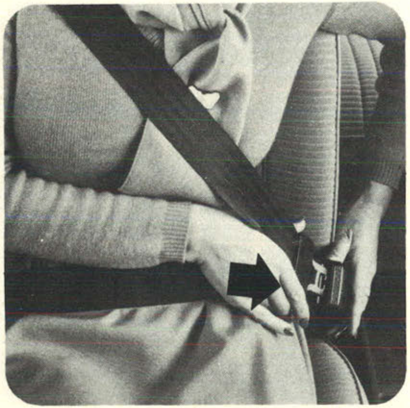
To put on a retractor seat belt, pull the metal tongue across your body and clip it into the buckle. When the metal tongue has locked safely into place you will hear a "click". After fastening, settle the belt by running your hand under the belt starting at the hip, go across to the buckle, then up under the sash. Any extra belt length will retract automatically.

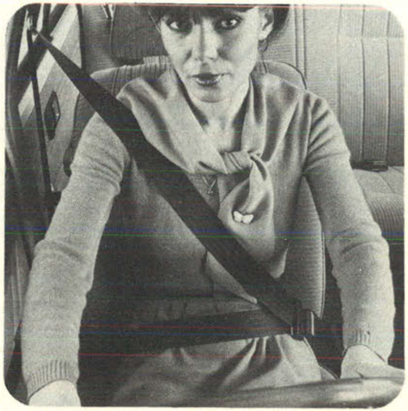
The lap section should be worn **as low as possible on your hips**, not on your waist. Make sure the sash and lap sections of the seat belt are free from twists and are fitting firmly.

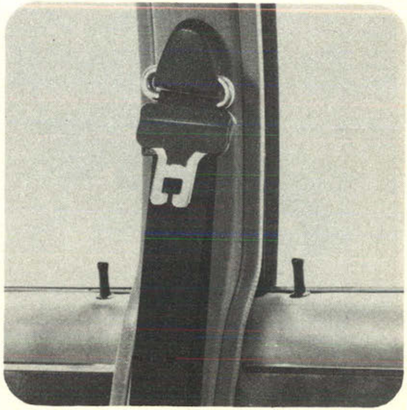
The emergency — locking retractor belt allows you to move freely while the vehicle is travelling normally. The belt will lock immediately on fast braking, impact with a solid object or any quick action.

To release all belts: press the release button on the buckle and allow the belt to retract. Check that it fully retracts without twisting or turning.

WARNING: The positioning of the tongue restrictor must never interfere with or stop the belt from fully retracting.







Lap-Type Belts

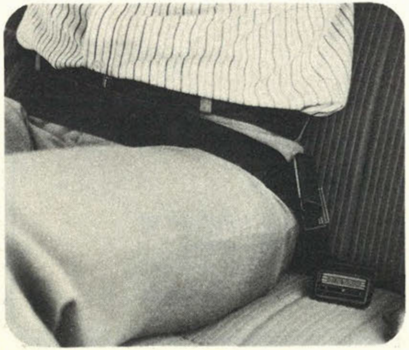
To Adjust: Settle yourself comfortably. Bring the tongue adjuster across your body and clip it into the buckle. When the metal tongue has locked safely into place you will hear a "click". Make sure the belt is fitting firmly across the lower hip area and not across your waist.

To Shorten: Tilt the tongue adjuster and pull the belt through the belt adjuster.

To Lengthen: Tilt the tongue adjuster and pull the belt from just below the finger grip bar.

Belt Storage

When not in use keep the lap belts fastened.



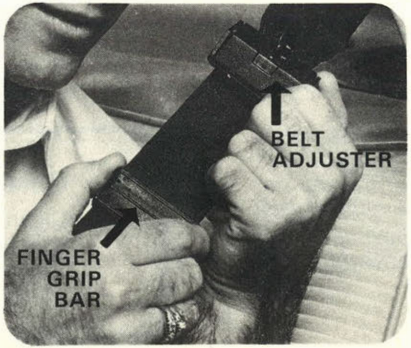
Non-Retractor Lap/Sash Belts

The lap section should be worn **as low as possible on your hips**, not on your waist. Make sure the sash and lap sections of the seat belt are free from twists and are fitting firmly.

To adjust: Settle yourself comfortably. Bring the tongue adjuster across your body and clip into the buckle. When the tongue has locked safely into place you will hear a "click".

To lengthen: tilt the belt adjuster as shown and pull the belt from just below the finger grip bar.

To shorten: tilt the belt adjuster and use the finger grip bar to pull the belt through the belt adjuster.



Belt Storage

A hook on the belt adjuster is provided to hang the belts when they're not in use.

Safety Hints

Check seat belts regularly. Your GMH Dealer will do this as part of normal Guardian Maintenance.

Adjust seat belts firmly. A loose belt is no help at all. Seat belts must be replaced if they have been in use during a severe impact — even if there's no obvious damage.

Don't wear a belt with twisted straps.

Don't ever put a seat belt around a child being nursed on the lap.

AUSTRALIAN DESIGN RULES: WARNINGS

Seat belts are designed to bear upon the bony structure of the body, and should be worn low across the front of the pelvis, or the pelvis, chest and shoulders, as applicable; wearing the lap section of the belt across the abdominal area must be avoided.

Seat belts should be adjusted as firmly as possible, consistent with comfort, to provide the protection for which they have been designed. A slack belt will greatly reduce the protection afforded to the wearer.

Care should be taken to avoid contamination of the webbing with polishes, oils and chemicals, and particularly battery acid. Cleaning may safely be carried out using mild soap and water. The belt should be replaced if webbing becomes frayed, contaminated or damaged.

It is essential to replace the entire assembly after it has been worn in a severe impact even if damage to the assembly is not obvious.

Belts should not be worn with straps twisted.

Each seat belt assembly must only be used by one occupant; it is dangerous to put a belt around a child being carried on the occupant's lap.

No modifications or additions should be made by the user which will either prevent the seat belt adjusting devices from operating to remove slack, or prevent the seat belt assembly from being adjusted to remove slack.

The positioning of the tongue restrictor must never interfere with or stop the belt from fully retracting.

Care of Seat Belts

Clean belts only with a solution of mild soap and lukewarm water. Never use bleach. Replace the belts if they become frayed or damaged.

Infant & Child Restraints

Your Commodore is provided with anchorage points for child restraints — see diagram — and your GMH Dealer will be more than happy to advise you about the various types of child restraint available.

Children should be belted in at all times.

Never use a child restraint as an adult seat belt — it will not take the extra weight.

Sedan

Anchorage points are located on the rear window ledge. Remove the plugs and install child restraints with the anchor bolts.

Wagon

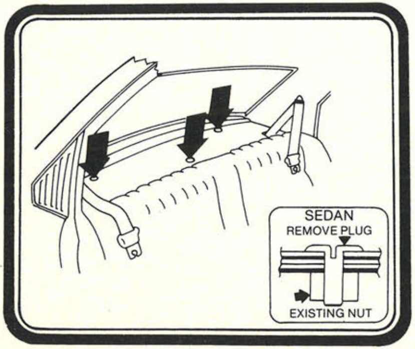
Anchorage points are located on the floor behind the rear seat. Remove the plugs and install child restraints with the anchor bolts.

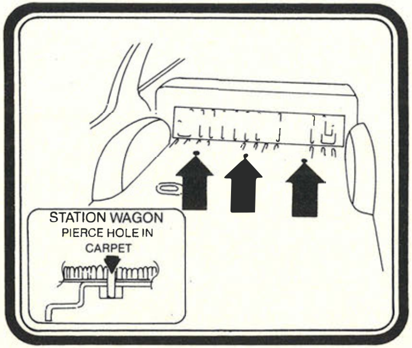
On rare occasions it may be necessary to travel with a child in a vehicle without restraints. If so, please heed the following precautions.

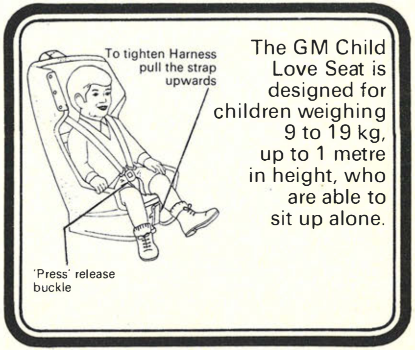
INFANTS UNABLE TO SIT BY THEMSELVES should be carried in a padded, covered bassinet placed **across** the back seat. Strap this in tightly with the two regular seat belts.

CHILDREN ABLE TO SIT UP should be belted with the regular seat belt. If the sash part rubs on the child's neck or face, move the child towards the centre of the vehicle. If this doesn't work, the child should be lap-belted on the back seat. NEVER allow a child to stand or kneel on any seat.

WARNING: Child restraint anchorages are designed to withstand only those loads imposed by correctly fitted child restraints. Under no circumstances are they to be used for adult seat belts or harnesses.







The GM Child Love Seat is designed for children weighing 9 to 19 kg, up to 1 metre in height, who are able to sit up alone.

Section 2: Starting and Operating

EXHAUST GAS WARNING

Carbon Monoxide Poisoning

Exhaust gases contain carbon monoxide which can cause unconsciousness and even death.

You could breathe the gases in if the exhaust system on your vehicle is faulty.

Have the vehicle checked thoroughly each time it is serviced. If you notice a change in exhaust noise, or if the back of your vehicle is damaged, take it to your GMH dealer for inspection.

If you must drive with a faulty exhaust, drive with all the windows open.

Danger

Don't ever sit in a parked vehicle with the engine running for any length of time. And don't leave the kids in there either.

Don't run the engine in the garage any more than necessary to move the vehicle.

If you must travel with the boot open, close all windows, fully open the ventilation system and do not exceed 50 km/h unless necessary.

Exhaust Pollution

Your Commodore is equipped with several features designed to minimise exhaust pollution.

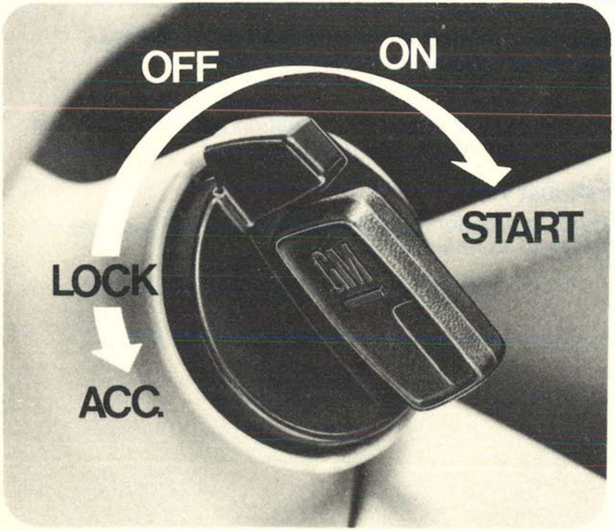
Steering Column Controls

Ignition Lock

This is an anti-theft lock and is on the right side of the steering column. It has five positions.

ACC (1st Back from Lock) — Permits operation of accessories when the engine is not running. To engage, push the key in and turn toward you (counterclockwise).

LOCK (Normal Parking Position) — Locks the ignition when the key is removed and provides an added theft protection by preventing operation of the steering wheel.



OFF (1st Forward from Lock) — Permits turning the engine off without locking the steering wheel.

ON (2nd Forward from Lock) — Normal operating position. The ignition circuit and the electrically operated instruments are energised.

START (3rd Forward from Lock) — This starts the engine.

CAUTION: Do not turn the ignition switch away from the 'ON' position while the vehicle is in motion as this renders ineffective any power assisted equipment.

Never remove the key while the vehicle is in motion as this will lock the steering of the vehicle.

Power Steering (where fitted)

This system has been designed to reduce steering effort. It uses hydraulic pressure to lighten steering loads and is designed so that "road feel" is retained. Care should be taken not to hold a turning force on the steering wheel when stationary (i.e. when waiting before turning a corner, etc.) as this may affect the system.

CAUTION: Power Steering assistance is provided by a hydraulic pump driven by the engine. The power steering is rendered ineffective when the engine is not running, if the power steering pump drive belt breaks or if the pump reservoir is empty of fluid.
Do not drive the vehicle under these conditions.

NOTE: If the steering lock is difficult to disengage when the vehicle has been parked with the tyres hard up against the kerb or with the steering wheel off-centre it may be necessary to rotate the steering wheel to free up the ignition steering lock.

Windshield Wipers and Washers

The wiper and washer mechanisms operate when the ignition switch is in either the ON or ACC positions.

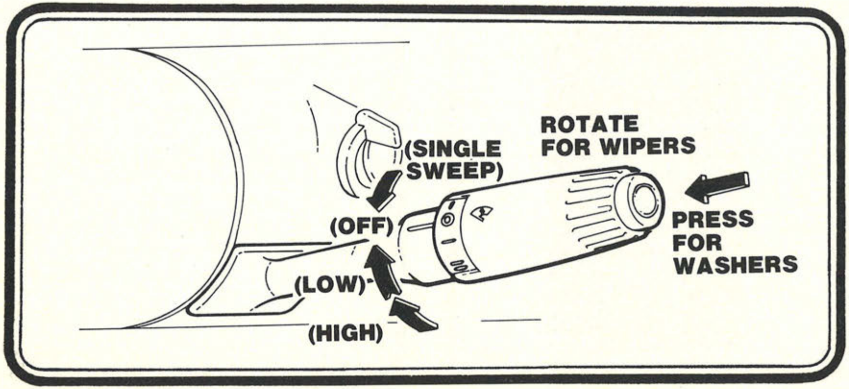
WIPER OPERATION — The Windshield wipers are operated by turning the end of the stalk clockwise from the O position:
— Position for slow wiper speed.
= Position for fast wiper speed.

To stop the wipers, turn the stalk back to the O position. An extra position is proved which operates the wipers for a single sweep only. From the O position turn the stalk anti-clockwise to the I position and release. The stalk will return to the O position and the wipers will sweep once across the windscreen and return to their rest position.

WASHER OPERATION — By depressing the button on the end of the stalk the electric washer pump is activated, spraying jets of fluid onto the area swept by the wiper blades. If the windshield wipers are not in operation at the time, depressing the button on the stalk will automatically start them operating on slow speed and keep the wipers operating until turned off.

Headlamp Wash/Wipe System (where fitted)

This system, on vehicles so equipped, is operated when the ignition, together with the parking lights or the headlamps, is on. Depression of the windshield washer button on the end of the stalk will activate the headlamp washers and wipers for a fixed (relay-controlled) time. Check the system at regular intervals for proper function, and clean wiper blades with a cleaning solvent. If hardened, brittled or otherwise damaged, replace wiper blades.

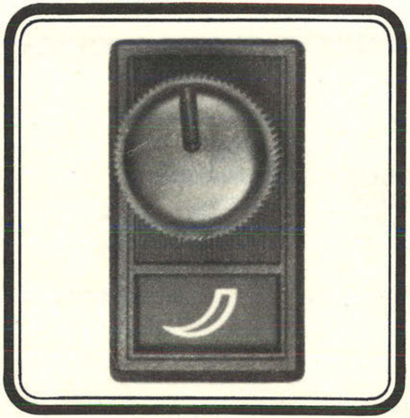


Rear Window Wash/Wipe System (where fitted — Station Wagon only)

The rocker switch for operating the rear window wiper/washer system is located in the centre instrument panel console. To activate the wiper depress the switch to the first position. Depressing the switch fully will activate the washer. Water will spray the window for as long as the switch is held in the full position. The water reservoir for the rear window washer is located in the spare wheel well under the rear luggage compartment floor.

Wiper Dwell Control (where fitted)

The dwell control can be operated by turning the knob on the instrument panel in a clockwise direction which progressively increases the dwell period between wiper blade sweeps.

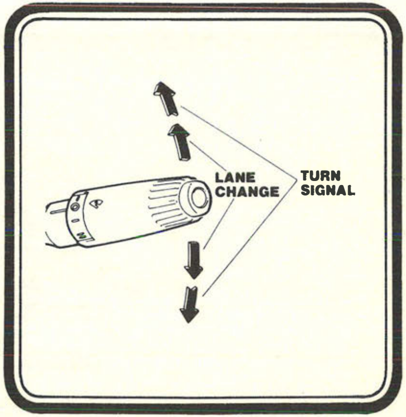


Turn Signals

To indicate turning left, push the stalk up.

To indicate turning right, push the stalk down.

The signal cancels automatically when the turn is completed. If the green turn signal indicator lights do not flash, or if you cannot hear them clicking, or if they start to flash slower or faster than usual — have them checked right away.



Lane Change Indication

Using the two-stage operation shown in the illustration it is possible to signal lane changing by exerting slight finger pressure on the stalk in the direction of intended vehicle movement. On release of finger pressure the stalk will return to the neutral position.

Headlamp Dipping

The combination stalk is also used to change the headlamp beam from low to high or high to low. To select high beam move the stalk rearward, towards the steering wheel and then release. Repeating this operation will change the beam from high back to low. This means that each time the stalk is moved in this manner, the light beam will change. When the headlamps are operating on high beam a blue light located on the instrument panel will glow.

It is also possible to flash the high beam for signalling purposes without operating the light switch by moving the stalk rearward, towards the steering wheel. A light resistance will be felt at the flash position. Further movement towards the steering wheel will cause dip switch operation. The lights will remain on high beam as long as the stalk is held up.

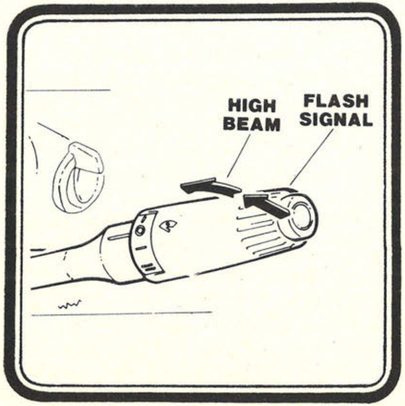
Hazard Warning Switch

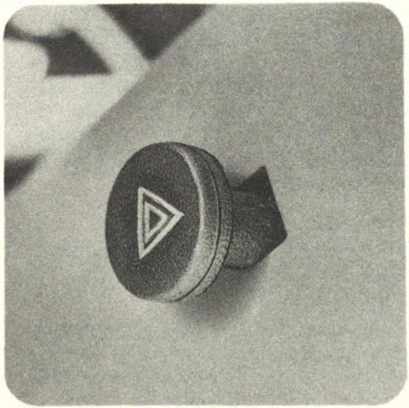
This is the red button located at the left side of the steering column. When stopped in an emergency situation press the button in. This makes all four turn signal lights flash continuously. When in action both turn signal indicator lights on the instrument panel will also flash.

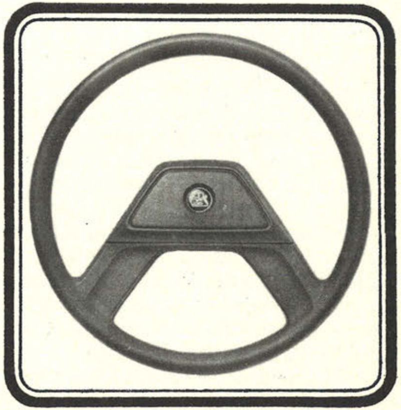
The hazard warning is stopped by withdrawing the push button.

Horn

The horn is operated by pressing the bar, on the steering wheel. The horn can be operated at any time.







Starting and Driving

The following suggestions are for starting and driving and should be followed if you are to get the best out of your vehicle.

Parking Brake

This should be firmly applied, and released only after you have started up.

Manual Transmission

Press the clutch in and check that the transmission is in Neutral.

Automatic Transmission

Check that the selector lever is in either N or P. The engine will not start if it is in any other position.

Engine

Cold Starting

Your Commodore engine has an automatic choke system.

Before starting a cold engine, press the accelerator pedal slowly to the floor and completely release it again. This action sets the choke system for starting. Turn the ignition key to the START position until the engine is started. If the engine fails to start within a few seconds, turn the key to the OFF position then depress and release the accelerator pedal before turning the ignition key to the START position again. Release the key when the engine is started. If the vehicle has been standing for several days, it may be necessary to repeat this procedure a few times until the engine starts. After the engine has started, allow it to run at fast idle for at least 10 seconds before engaging gears. Do not KICK DOWN, i.e. do not depress the accelerator pedal in an attempt to lower the engine idle speed. While the engine is running, the automatic choke gradually moves to the off position as the engine reaches normal operating temperature.

In temperatures below 0°C, let the engine run at fast idle in NEUTRAL for about one minute. Without touching the accelerator pedal, put the automatic transmission into DRIVE and wait for a few seconds for the engine to steady itself before driving away.

Flooding

Pumping the accelerator can cause flooding which will prevent the engine from starting.

If this occurs, press the accelerator down to the floor and hold it there while holding the key in the START position. When the engine starts, allow the accelerator pedal to come up slowly.

Warm Starting

During summer, or when your engine is warm, the choke system operates only briefly — if at all.

To start — press the accelerator halfway to the floor and hold it in this position, then turn the key to START.

Idle the engine in Neutral for about 30 seconds before driving off.

Initial Driving

MANUAL TRANSMISSION:

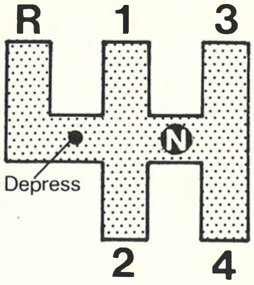
Depress the clutch pedal and place the gear shift lever into the first or the reverse gear position. Release the parking brake. Lightly depress the accelerator pedal to increase the engine speed and slowly release the clutch pedal to set the vehical in motion.

AUTOMATIC TRANSMISSION:

Depress the main brake pedal and release the parking brake. Place the gear selector lever into the DRIVE or REVERSE position. Release the brake pedal. Lightly depress the accelerator pedal to set the vehicle in motion.

Transmission Controls

4 Speed Manual Transmission



This system has four fully synchronised forward gears and a non-synchronised reverse gear.

The gear selection pattern is indicated on the knob of the gear lever.

First Gear — Low: This is synchronised and can be used at speeds up to 30 km/h. To avoid overloading the engine do not exceed this speed when accelerating. When decelerating do not select this gear unless the vehicle speed is less than 30 km/h.

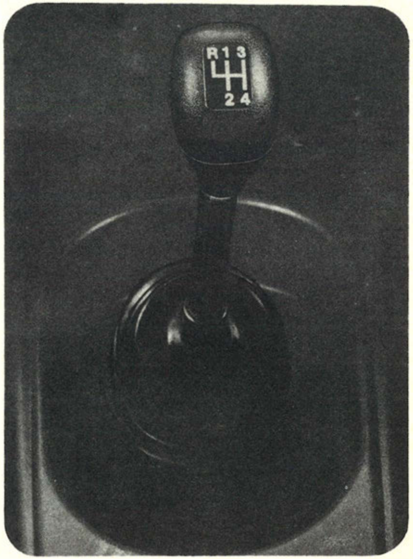
Second Gear — Low Intermediate: Use this gear at speeds up to 50 km/h when driving in traffic. It is also useful on steep hills, but do not select this gear unless vehicle speed is less than 50 km/h.

Third Gear — High Intermediate: Use this gear for acceleration and deceleration in the speed range 50-80 km/h.

Fourth Gear — High: This is the normal cruising gear at speeds down to 50 km/h. A lower gear should be selected for acceleration or deceleration.

Reverse Gear: This gear must never be engaged unless the vehicle is stationary. A slight pause between pushing the clutch in and moving into gear is desirable. The lever knob must be depressed downwards to pass into the R gate path.

NEUTRAL — For use when starting or running the engine while the vehicle is stationary. **Never allow vehicle to travel while using neutral.**



Back-Up Lights

If the engine is on, these will operate whenever Reverse is selected.

Automatic Transmission

T-Bar Shift Lever

The engine will not start unless the selector is in either P or N. Select your gear — normally D — after the engine has started. By raising the release bar below the shift lever handle selection of gears from 1 to P or P to 1 and any intermediate positions can be made.

Shifting upwards from 1 to 2 to D to N does not require use of the release bar but it must be raised to select R or P.

Selecting positions from P requires raising the release to move out of PARK. Releasing the release bar before R will still allow selection through R to N to D. The release bar must be raised again to shift into the lower positions 2 or 1.

What the positions are for:

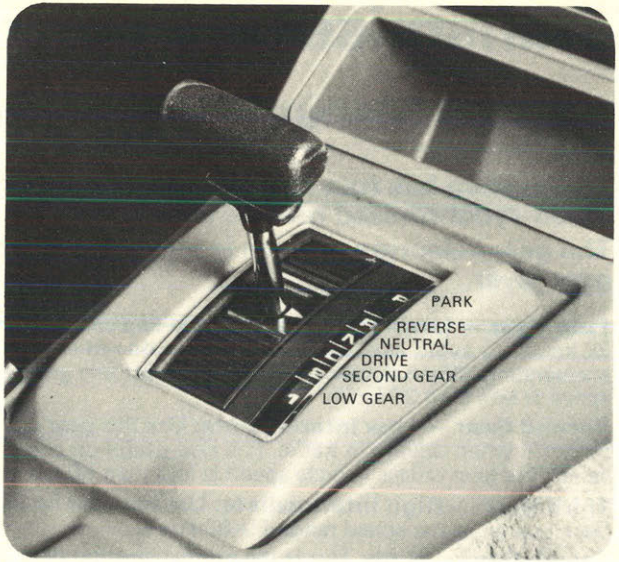
P — Parking. Always use the parking brake as well. Your engine may be started in this position.

R — Reverse. Your car must be stationary before you select this position. If the engine is on, Back-Up Lights will operate whenever Reverse is selected.

N — Neutral. This position can be used to start the engine. It must be used if the car is being towed on two wheels by a tow truck.

D — Drive. This is the normal driving position and allows for adequate acceleration for all but extreme driving situations.

NOTE: In this position the vehicle begins accelerating in first gear and shifts automatically into 2nd and 3rd gear. When applying gradual and even accelerator pressure, shifting into fuel saving higher gears takes place earlier than when accelerating rapidly.



2 — Second. This may be used going down moderately steep hills. It will give a slight braking action without the use of the brakes.
Don't use at speeds over 95 km/h on 6 cylinder models or 110 km/h on 8 cylinder models.

1 — First. This gives maximum braking for steep hills. Shift back to 2 or D when you've negotiated the difficult bits. Don't use at speeds over 65 km/h.

Passing

When the accelerator is pressed down hard, the shifts shown below will normally occur automatically. Speeds given may vary depending on type of rear axle and tyres.

SELECTION	4 CYLINDER SPEED RANGES	6 CYLINDER SPEED RANGES	8 CYLINDER SPEED RANGES	EFFECT
SHIFT LEVER IN D				
Over	100 km/h	105 km/h	110 km/h	No Change
Under	95 km/h	90 km/h	95 km/h	Changes to Second Gear
Under	55 km/h	50 km/h	50 km/h	Changes to First Gear
SHIFT LEVER IN 2				
Over	50 km/h	55 km/h	55 km/h	No Change
Under	45 km/h	50 km/h	50 km/h	Changes to First Gear
SHIFT LEVER IN 1				
Don't Exceed	60 km/h	65 km/h	65 km/h	No Change

Automatic Driving Don'ts

- Don't rev the engine with the brakes on in either 1, 2, D or R. This will overheat the transmission.
- Don't rev the engine to hold it on a slope. Use the brakes.
- Don't move into either R or P unless the vehicle has stopped.
- Don't ever coast the vehicle in N — this lessens your control and braking power.

Floor Controls

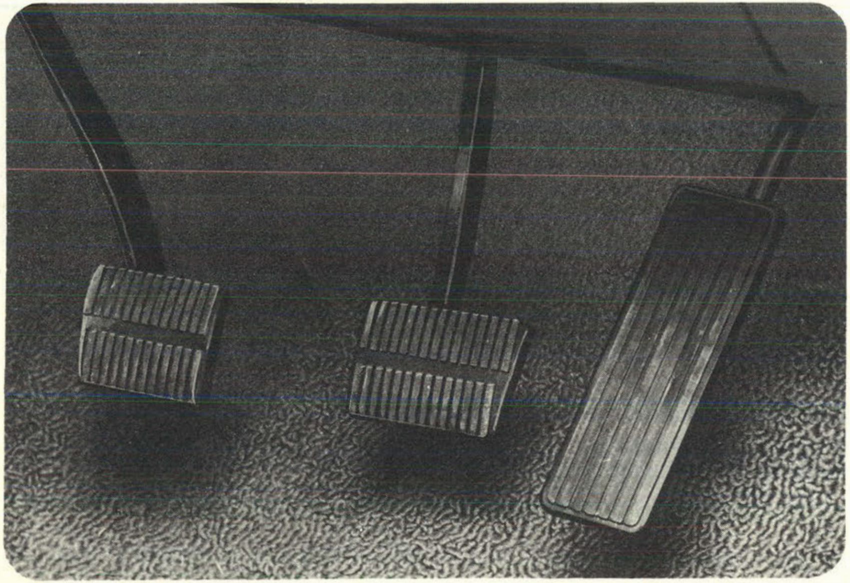
Dual Circuit Brake System

The braking system on your Commodore is actually two separate systems; one operating the front wheels, the other operating the back wheels.

Hydraulic pressure is provided from a tandem design master cylinder which isolates the front system from the rear system, and provides different pressures, which are developed to meet their requirements to each system.

So, if either system is faulty, you can still brake the vehicle, with a little extra pedal effort.

After you've been driving your vehicle for a while you will become used to how the brakes feel when they are operating normally. If you notice any change in this "feel", have them checked.



Power-Assisted Brakes

These will still work with the engine switched off, but you would have to apply more pressure to the brake pedal than usual. To be safe — never run downhill with the engine off, and never coast with the engine off. Also, never have the vehicle towed on 4 wheels without a rigid connection between the two vehicles. A tow truck is safer.

Front Disc Brakes

These brakes adjust themselves automatically to compensate for wear.

Rear Drum Brakes

These self adjust every time you brake or apply the brake pedal.

Rear Disc Brakes (where fitted)

The rear disc brake system includes a proportioning valve. Under normal operation this reduces the pressure to the rear brakes during heavy stops to compensate for weight transfer. In the event of a failure of the front system due to leakage, this valve supplies full pressure to the rear system.

Accelerator Pedal

The accelerator pedal is used to regulate engine power and vehicle speed.

Clutch Pedal

On models equipped with manual transmission this pedal is used to engage and disengage the clutch which enables you to select and change gears.

Parking Brake

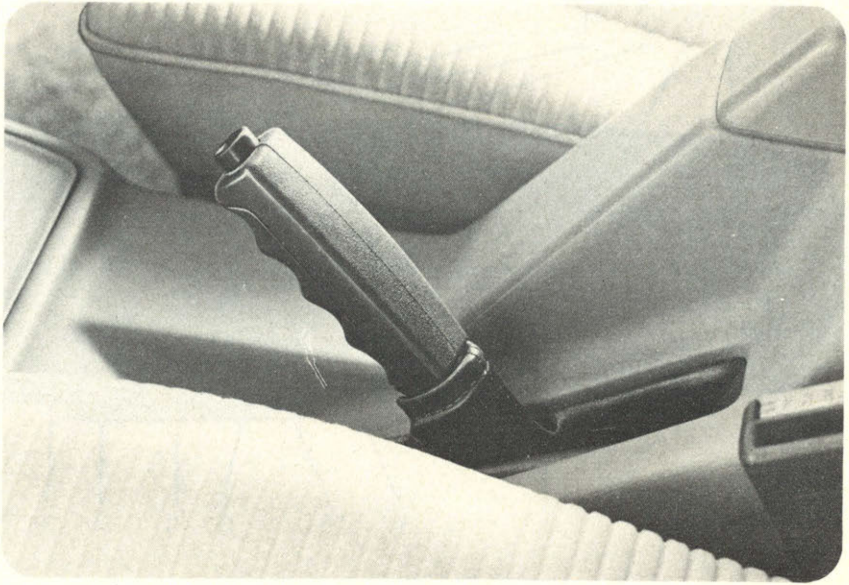
The parking brake lever is mounted on the floor, between the passenger's and the driver's seats.

To Apply. Pull the lever straight up using the grip at the end of the lever. **Do not press the release button.**

To Release. Pull the parking brake lever upwards while simultaneously pressing in the release button at the end of the lever with the thumb. After the ratchet system disengages, retain pressure on the button while lowering the lever.

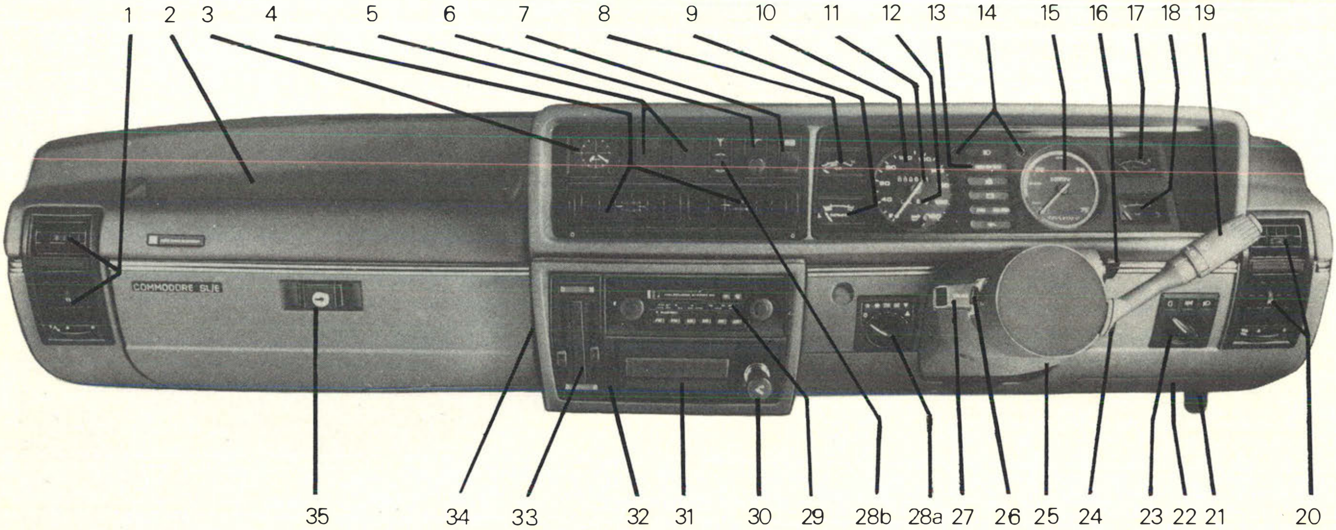
Warning Lights

A BRAKE WARNING LIGHT and PARKING BRAKE WARNING LIGHT are fitted for your safety. (Refer page 38 Indicator Lights.)



Instrument Panel Controls and Dials

These pages detail all available instruments and control options. Some features may not be fitted to your vehicle.


1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
COMMODORE SL/E
35
34
33
32
31
30
29
28b
28a
27
26
25
24
23
22
21
20

Controls and dials vary on certain models. Fittings which are not found on all models are marked with an asterisk*.

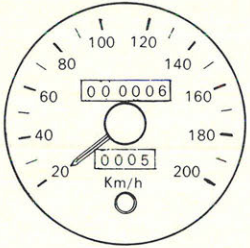
1. Left Hand Flow-Through Ventilation Outlets.
2. Tray.
3. Electric Clock with Adjusting Knob (where fitted).*
4. Central Flow-Through Ventilation Outlets.
5. Accessories Switches (Spares).
6. Windscreen Wiper Dwell Control (where fitted).*
7. Heated Rear Window Switch.*
8. Voltmeter (where fitted).*
9. Temperature Gauge.
10. Speedometer.
11. Odometer.
12. Trip Meter.
13. Warning Light Cluster (Control Lamps).
14. Turn Signal Indicator Lights.
15. Fuel Economy Meter (or Tachometer when fitted).*
16. Ignition/Starter Switch.
17. Oil Pressure Gauge (where fitted).*
18. Fuel Gauge.
19. Signal Light/Windscreen Wiper Switch Combination.
20. Right Hand Flow-Through Ventilation Outlets.
21. Engine Hood Release Lever.
22. Fuse Box Cover Panel.
23. Light Switch.
24. Instrument Panel Dimmer Wheel.
25. Electric Door Lock/Window Reset Buttons (where fitted).*
26. Hazard Warning Flasher Button.
27. Cruise Control (where fitted).*

28A. Air Conditioning Mode Control (where fitted).*

28B. Air Conditioning Switch (where fitted).*/Electric Radio Antenna switch (SL/E) models only).*

29. Radio/Radio and Stereo Cassette Player.*
30. Cigarette Lighter.
31. Ash Tray.
32. Speaker Balance Control (where fitted).*
33. Ventilation Controls.
34. Luggage Compartment Release inside (where fitted).*
35. Instrument Panel Compartment Lock.

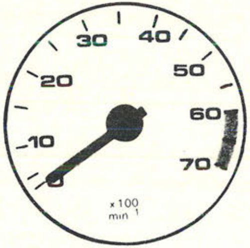
Instruments & Dials


100
120
80
140
60
160
40
180
20
200
000006
0005
Km/h

Speedometer, Odometer and Tripmeter

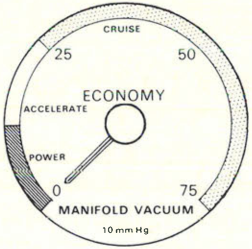
The Speedometer face incorporates the odometer digits to show the distance travelled in kilometres. The Speedometer is calibrated from 0 to 200 kilometres per hour (km/h).

A Tripmeter, which is set to zero by the push button, records the distance covered on a particular trip.


0
10
20
30
40
50
60
70
x 100
min⁻¹

Tachometer (where fitted)

The Tachometer is graduated from 0-70 indicating engine revolutions in hundreds per minute (r.p.m.). This section from 55-70 is indicated in RED and continued or sustained operation in this section could cause serious engine damage.

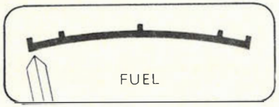

CRUISE
25
50
ECONOMY
ACCELERATE
POWER
0
75
MANIFOLD VACUUM
10 mm Hg

Fuel Economy Indicator (where fitted)

By monitoring the intake manifold vacuum, this gauge gives a reading which indicates good or poor fuel consumption. The RED zone indicates high fuel consumption. You should avoid driving with the needle in this RED zone for prolonged periods if you wish to obtain optimum fuel consumption from your vehicle. The position of the needle can be controlled by your driving habits. (Refer pages 4 to 7.)

NOTE: The power, accelerate and cruise areas of the Fuel Economy Indicator differ for the 4 cylinder engine.

Fuel Gauge

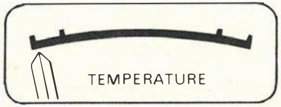


This gauge is electrically operated to indicate the proportionate amount of fuel contained in the fuel tank. The gauge is activated when the ignition switch is turned to the ON position.

For Wagons: The approximate amount of fuel in the tank is: Full, 68 litres; ¾, 53 litres; ½, 36 litres; ¼, 18.5 litres.

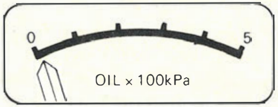
For Sedans: The approximate amount of fuel in the tank is: Full, 63 litres; ¾, 50 litres; ½, 31 litres; ¼, 18 litres.

Temperature Gauge



The gauge is calibrated to indicate the relative operating temperature of the cooling system. If the needle reaches the red section, (indicating high temperature) the engine should be stopped and allowed to cool down before attempting to locate the cause of the problem. (Refer page 69 for overheating instructions.) Check that no visible leaks are apparent from the cooling system or that the fan belt is not slipping or broken.

Oil Pressure Gauge (where fitted)

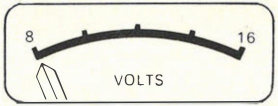


The oil pressure gauge indicates the relative operating pressure within the engine lubricating system.

Should the gauge fail to indicate a reading or if the needle moves towards the RED section of the gauge (indicating low pressure) when the engine is running above idle speed, it should be stopped and the reason for the loss of oil pressure found and corrective action taken.

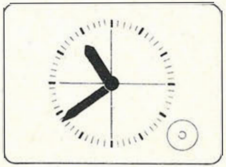
Voltmeter (where fitted)

The voltmeter indicates the condition of the electrical charging system. Normally the needle will remain in the white band operating area of the dial.



Needle movement to the left red zone indicates a low voltage condition. Needle movement to the right red zone indicates a high voltage condition.

In either of these cases, the electrical charging system will require checking; items such as the battery, voltage regulation, drive belt or wiring and connections could be affected. A generator charge indicator light is incorporated in the dial face.

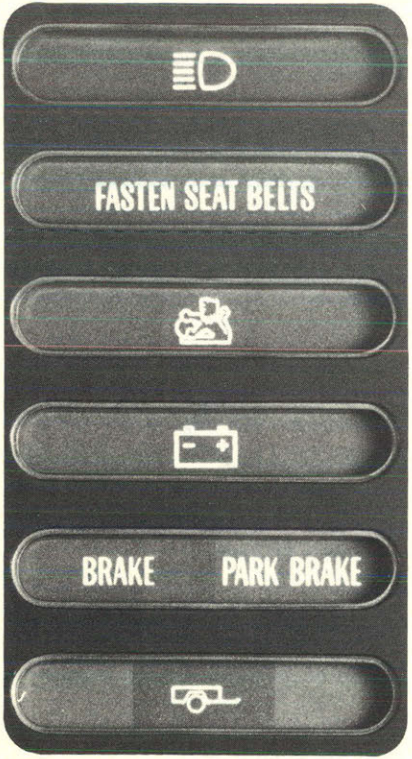


Clock (where fitted)

The clock is electrically energised, the time setting is adjusted by turning the knurled knob in the corner of the clock face to engage and rotate the dial hands.

To fulfil its function, the clock operates at all times.

Indicator Lights



High-Beam

When the headlamps are on high beam a white symbol on a blue rectangle located on the warning light cluster will glow.

Oil Pressure (where fitted)

The white symbol on a red rectangle will glow when the ignition switch is turned to the On position. After the engine has been started, the light will go out and remain out. If the light should glow after the engine is running above idle, stop the engine and the reason for the loss of oil pressure should be located and corrective action taken.

Generator

The white symbol on a red rectangle will glow when the ignition switch is turned to the ON position. After the engine has been started, the light will go out and remain out. If the light should glow after the engine is running, the fault causing the problem should be located and corrective action taken.

Parking Brake Warning

PARK BRAKE

When the parking brake is applied with the ignition switch in the ON position, the red sign will glow until the parking brake is fully released.

Brake Failure Warning

BRAKE

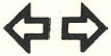
If the red sign glows at any time, it will indicate that there may be something wrong with the braking system. Immediately the indicator light glows, under these conditions, stop on the side of the road as carefully as possible. Do not proceed until satisfied that cautious progress is possible or that the cause of the problem has been located and rectified.

(Reference should be made to brake operations on pages 32 and 33.)

Trailer Lamp Monitor (where fitted)

When a trailer is connected a white symbol on a green rectangle will glow.

Turn Signal

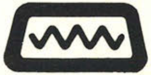


There are two green arrow-head turn signal indicators. They are located at the top outer corner of the warning light cluster. The appropriate indicator will flash in the direction signalled.

Hazard Warning Flashers

The two green arrow-head turn signal indicators on the instrument panel will flash continuously whilst the Button located on the left side of the steering column is depressed.

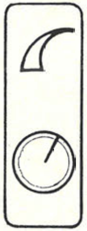
Heated Rear Window Switch



The electrically heated rear window is switched on with the rocker switch shown in illustration (page 34) and is only working with the engine running. A coloured surface appears on the top of the switch as soon as the electrically heated rear window is switched on. The symbol illumination comes on together with the exterior vehicle lighting, it changes to a purple colour when the rear window heating is switched on.

To avoid overloading the electrical system the electrically heated rear window should only stay switched on until the rear window is clear. When cleaning the electrically heated rear window observe the hints given under "Care of the Exterior".

Dwell Control (where fitted) (refer page 26)

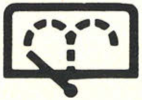


The dwell wiper switch controls the dwell period between wiper blade sweeps. Operation of the wiper blade speed control on the stalk in either slow or fast positions will override the dwell control setting. If the wiper speed control is returned to the OFF position, the dwell control will take over at the particular setting being used.

Cigarette Lighter

The Cigarette Lighter is activated only when the ignition switch is in the ON or ACC positions. To operate, simply press in the lighter knob. It will stay in until the element is hot at which time the lighter will automatically pop back to its original position ready for use.

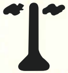
Rear Window Washer/Wiper



The rear window wiper is operated by depressing the switch to the first position. The washer is operated by depressing the switch fully. Water will spray on the window as long as the switch is held in this position.

Radio Power Antenna

(where fitted)



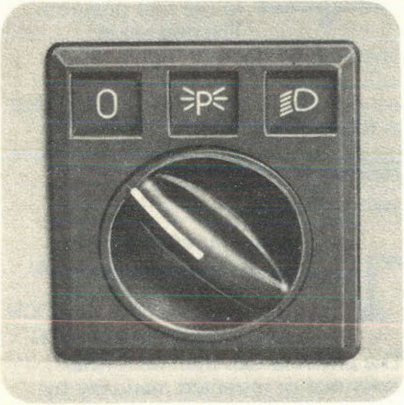
The power antenna will extend automatically to car roof height after a slight delay after the IGN. SWITCH is turned to "ON" or "ACC" The antenna can then be further extended or retracted manually by depressing the instrument panel switch in the desired direction. When the ignition switch is turned to "OFF" or "LOCK" the power antenna will retract automatically after a delay of 10 to 15 seconds.

FASTEN SEAT BELT

This square in the warning light cluster is not illuminated and is provided to remind the driver that seat belts must be worn when vehicle is in motion.

Instrument Panel Controls

Light Switch



Headlamps, tail lamps, parking lamps, instrument lighting and interior lighting are controlled from a single switch located on the driver end of the lower instrument panel.

The various operating positions of the switch control the lamps in the following order:—

Parking Light. Turning the light switch clockwise to first detent will switch on parking lights, tail lights and licence plate lights, as well as instrument lights.

Headlights. Turning the light switch fully clockwise to the last setting will, depending upon turn signal lever position, switch on headlight low or high beam, and simultaneously parking lights.

Headlight High/Low Beam Control

When headlights are on, high and low beam selection is made by pulling turn signal lever towards steering wheel. Each time lever is lifted, beam position will change, even with turn signals in operation.

Always use the low beam when approaching or following other road users.

Rotary Control — Instrument Lighting

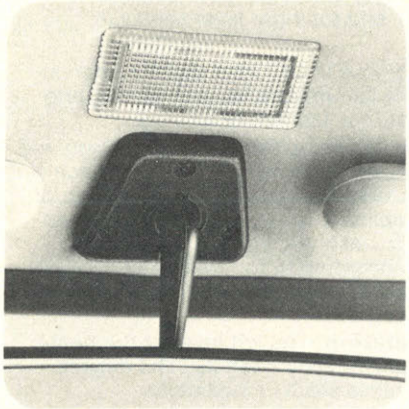
The brightness of the instrument lighting may be controlled by rotating the control wheel, the brightness increasing as knob is turned downwards and decreasing when turned the other way, when the light switch is in one of the ON positions.

NOTE: Pull the knob for courtesy lamp.

Headlamp Wash/Wipe System (where fitted)

This system, is operated when the ignition, together with the parking lights or the headlamps, is on. Depression of the windshield washer button on the end of the stalk will activate the headlamp washers and wipers for a fixed (relay-controlled) time. Check the system in regular intervals for proper function, and clean wiper blades with a cleaning solvent. If hardened, brittled or otherwise damaged, replace wiper blades.

Courtesy Light



When opening a front door, the courtesy light is automatically switched on. When pulling the light switch knob towards you to first setting, the courtesy light remains on, even with front doors closed. Where rear quarter panel lights and central lamp are fitted these are also activated as above. The spot reading lamps fitted in SL/E models are activated by individual switches on each spot lamp.

Luggage Compartment Light (where fitted)

The luggage compartment light will come on when opening the lid — independent of exterior lights.

Engine Compartment Light (where fitted)

The engine compartment is illuminated when the park and/or headlights are turned on.

Back-Up Lights

The two back-up lights provide general illumination behind the vehicle when shift lever is placed in reverse and ignition is turned on. They provide a visible signal to other drivers and pedestrians that the vehicle is operating or about to be operated in reverse gear.

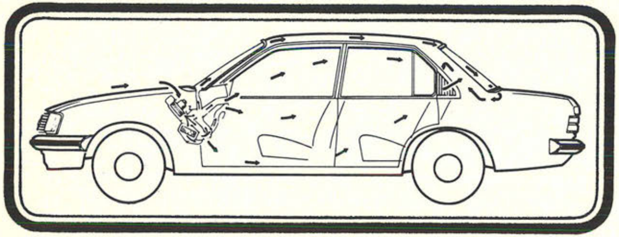
Ventilation and Heating System

The vehicle features a flow-through ventilation system which will operate with all the windows closed. Fresh air is ducted into the vehicle through the plenum chamber in front of the windshield and enters the passenger compartment via outlet ducts located in and below the instrument panel.

Two extractor vents are provided to complete the control of the flow-through system and act as exhaust outlets to the atmosphere for stale air.

In the sedan models these are located on the rear body pillar. In the wagon two extractor vents are located in the rear trim and the exhaust outlets are incorporated in the rear of the roof near the tailgate hinges.

NOTE: Don't allow the inlet grille to be covered or clogged with leaves, snow, etc.



The Heater Controls are arranged in the passenger side of the lower instrument panel. The left lever controls the temperature, the two centre levers the air inlet and distribution, and the right lever serves to operate the blower.

It is recommended to have the air inlet slightly open at all times except where circumstances such as entering smoke etc., necessitate the temporary closing.

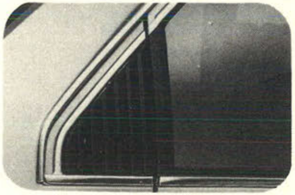
Ventilation and Air Distribution. For ventilation and heating, the fresh air inlet must be opened by moving the two centre levers from the "Zero" position down or up. The air flow is steplessly adjustable and is directed to the floor with the lower lever, and the windshield with the upper one; according to the triangular symbols the air flow can be distributed to the floor or windshield area as desired.

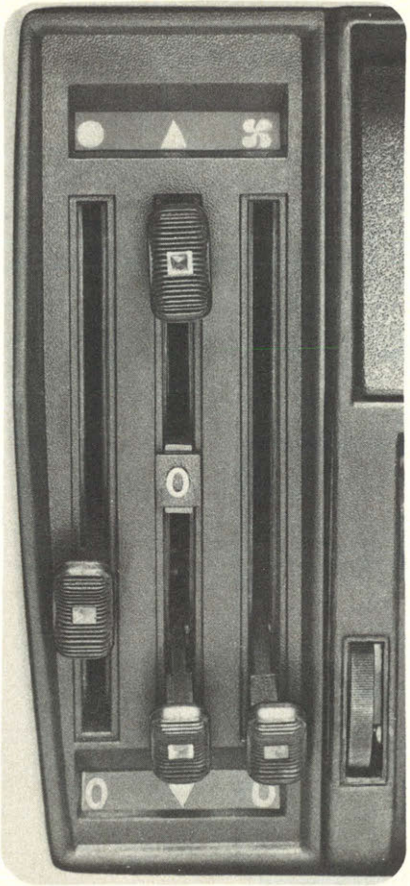
Temperature Regulation. The left lever of the heater controls regulates the inflowing fresh air. The desired temperature change takes place immediately.

COLD: Lowest lever position.
WARM: Uppermost lever position.

Blower. The right lever of the heater controls serves to regulate the blower speed. The air stream intensity depends on the speed selected. For optimum comfort the blower should also be switched on while driving.

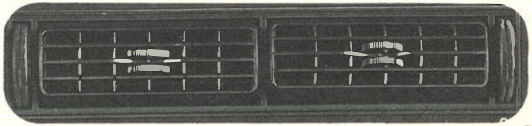
Off: Lowest position.
Max. speed: Uppermost position.





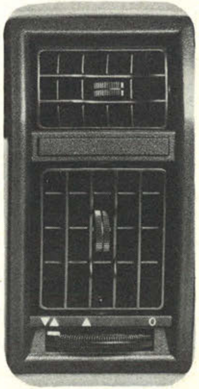
Fresh Air and Window Demisting

Centre Air Inlets. Two fresh air inlets in the centre of the instrument panel permit a direct supply of unheated fresh air to the vehicle interior. The air supply is — starting at resting position O — opened by means of a regulating wheel provided on the side, and is independent of the two air distribution levers of the control cluster. The air flow can be directed as desired by tilting or swivelling the inlet insert or grille. If required, the blower can be switched on to intensity the air flow.



Side Air Inlets. Both of the air inlets situated to the left and right-hand side of the instrument panel provide additional ventilation of the passenger compartment with heated or unheated air; depending on the position of the levers of the heat control cluster. The air supply is controlled via the regulating wheel which is situated below the inlets; this is effected independent of the position of the two air distribution levers in the heater control cluster. Depending on the marks on the regulating wheel and the housing the air flow can either be directed via the upper inlet (triangular symbol pointing up) or via both inlets (triangular symbols pointing both up and down).

Moreover, the air flow can be directed as required by tilting the inlet inserts and swivelling the grille. The upper inlets in particular are suitable for demisting the side windows.
During cold weather pleasant conditions are achieved if the air inlets are so adjusted that the warm air passes between door and the hip of the driver or front passenger.



Fresh Air and Window Demisting (cont.)

Summer Ventilation

Two levers down
Two levers up

(Position A)

For effective summer ventilation we recommend that the ventilation inlets on the sides and the fresh air inlets in the centre are opened, while the air distribution levers of the heater control cluster are closed. In this position the air can be directed almost anywhere. Apart from the support from the blower, maximum ventilation via ventilation and heater system is achieved by opening upper and lower air distribution levers in the heater control cluster so that air is directed both to the floor area and to the windshield.

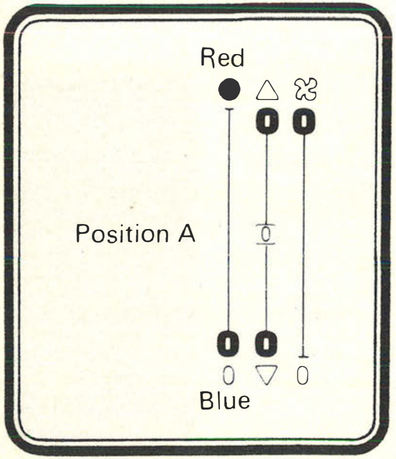
DEHUMIDIFICATION AND DEMISTING OF WINDOWS

All levers up

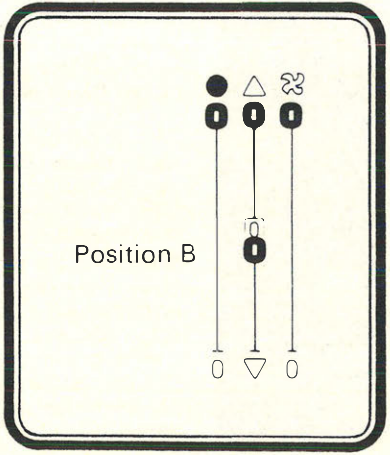
(Position B)

To rapidly clear frosted and misted windows, both of the air distribution levers and the temperature lever in the heater control cluster must be placed in the uppermost position and the blower switched on. The ventilation inlets must be opened and directed to the side windows. The centre fresh air inlets should be closed.

If fitted the heatable back window can also be switched on. If the lower air distribution lever is partly shifted downwards (floor area) the interior is heated rapidly at the same time.



Position A



Position B

Ventilation System

Explanation of Symbols for Air Distribution, Heater and Air-Conditioner

Symbol	Heater	Air Conditioner		Symbol Logic — Remarks
		System A	System B	
○	Distribution Control Levers	Mode Control	Distribution Lever	OFF or SHUT
✱ Blue	—	Mode Control	Not Applicable	Recirculation of inside air— and this is passed through the refrigerator core, being cooled and dehumidified. This extracts moisture, dust and pollen in the air, leaving it cleaner and relatively dryer.
✲ White	—	Mode Control		Outside air is drawn in—
⊟ Blue Red	— —	Mode Control	Not Applicable	Intake of outside air — Dehumidified — can be reheated — Partial heat gives warmer air at feet and cooler refreshing air at face level.
■ Green	—	Mode Control	Not Applicable	Normal ventilation as in a vehicle without Air Conditioning.
▲	Distribution Control Lever Windscreen	Mode Control	Distribution Lever	Outside air is distributed to the windshield for demisting and it can also be heated.
▼	Distribution Control Lever (Floor)	Mode Control	Distribution Lever	Outside air is distributed to the floor outlets and it can also be heated.
✤	Fan Control Switch	Fan Control Switch	Fan Control Switch	4 Speed Fan both units.
■ (Blue)	Heat Control Lever	Temperature Control Lever	Temperature Control Lever	Heater units — Outside air only is available. Air Conditioning units — Cooled and Dehumidified inside or outside air is available.
■ (Red)	Heat Control Lever	Temperature Control Lever	Temperature Control Lever	Heater units — Heated outside air only is available. Air Conditioning units — Dehumidified and reheated, or heated only outside air is available.

AIR CONDITIONING (where fitted)

Air conditioning serves to create a pleasant atmosphere in the vehicle interior. Ventilation, heating and refrigeration unit make up the functional unit of the air conditioning system. The refrigeration unit of the air conditioner cools the air and extracts moisture and dust. The heating unit heats according to the position of the temperature lever.

Depending on weather, temperature and personal comfort you can use the air conditioner throughout the year. You can switch the system to air circulation for maximum cooling, i.e. air from the passenger compartment that has already been cooled is cooled again and flows back into the passenger compartment; you can admit cooled outside air, heat the cooled air, or switch the heating off. Independent of the cooling element you can let outside air or heated outside air flow in.

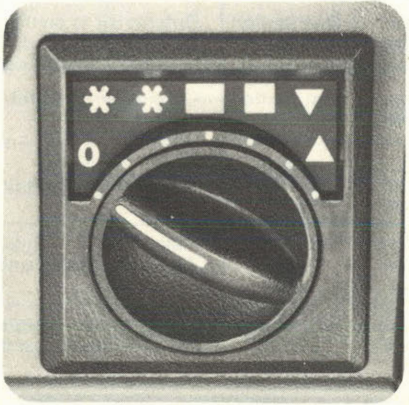
In cool and moderate conditions you can save fuel by using the vent setting to let in outside air rather than cooling through the air conditioner.

Air Conditioning Controls

There are two different control systems for Commodore integrated air conditioners. If your vehicle is fitted with an air conditioner, the applicable control system can be readily identified from the photographs on this page. For the purpose of explaining the operations of the control systems they have been identified as SYSTEM A and SYSTEM B.

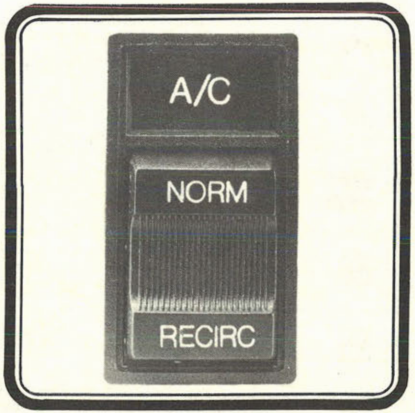
SYSTEM A.

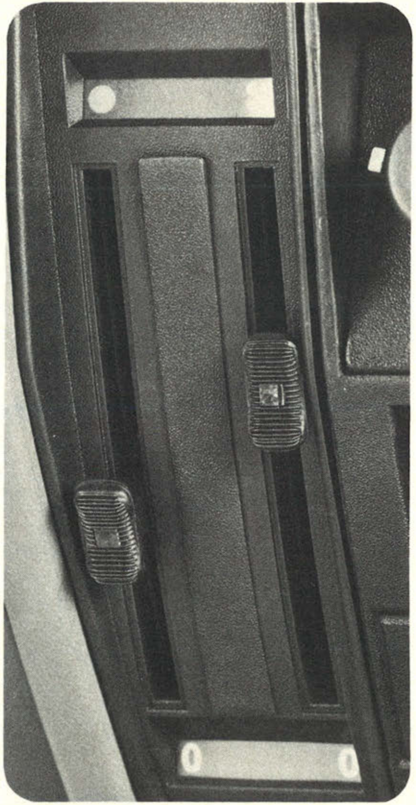
1. (Temperature and fan control)
2. (Mode Control)



SYSTEM B.

1. (Temperature, fan and directional Controls)
2. (NORM — OFF — RECIRC switch)





System A

The left lever of the heater and blower switch cluster serves to control the temperature of the cooled and dried air as well as the temperature of the inflowing re-cooled outside air. The lever is steplessly adjustable.
Lowest position: cold
Uppermost position: warm

Blower

The right hand lever of the heater and blower switch cluster serves to switch on the individual blower speeds.

lever in lowest position: low speed.

lever in uppermost position: full speed.

The blower speeds between these two positions are adjustable by moving the lever accordingly.

With the blower switch in the basic position the blower is automatically operating at low speed in all switching positions of the air conditioning switch.

The best efficiency of the air conditioner is obtained with windows closed. With extremely high temperatures in the passenger compartment we recommend to open the windows for a little while — immediately after entering the car and switching the air conditioning on — to permit a speedy escape of the warm air.

Air Conditioning System (cont.)

MODE CONTROL

The switching positions of the air conditioning switch have the following functions:

White Circle: off, air conditioning system switched off
Blue Snowflake: maximum cooling

White Snowflake: cool (outside air)

Blue/Red Square: bi-level cooling (outside air) — with temperature lever in intermediate position the upper air outlet is cooler than the lower one.

Green Square: ventilation (outside air)

Triangle Inverted: heating via floor area

Triangle pointing up: demisting of windshield

OPERATING RECOMMENDATIONS

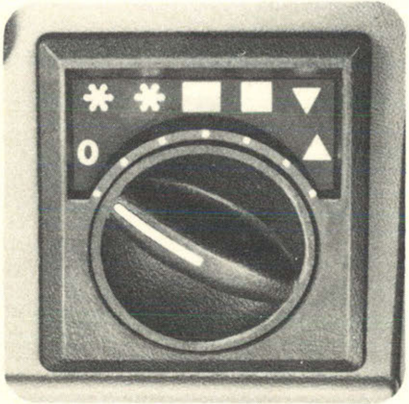
Before driving off in hot weather

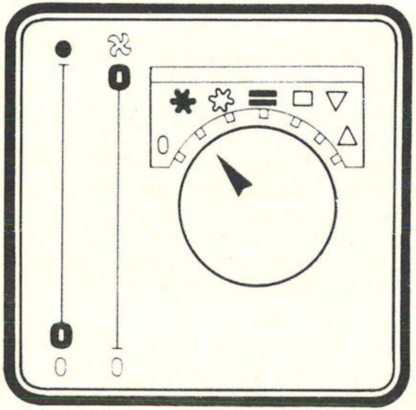
Temporarily open window
Air conditioner switch—blue snowflake
Temperature lever —down
Blower —full speed

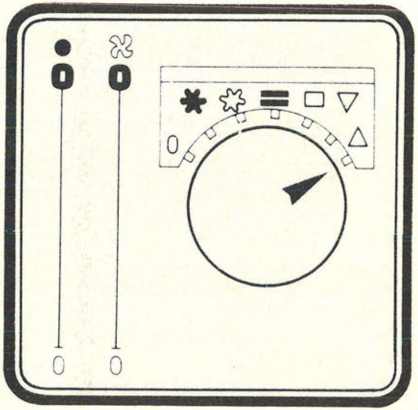
Before driving off in cold weather

Air conditioner switch—triangle pointing up
Temperature lever —up
Blower —full speed

Thereafter, the air conditioning system can be adjusted as described on the following pages.







MAXIMUM COOLING

A high cooling efficiency is generally desirable for city-driving or, in general, the slow driving or high outside temperatures. This is achieved by switching the air conditioning switch to the **blue snowflake for maximum cooling**, shifting the temperature lever to the lowest (zero) position and switching the blower to maximum speed position.

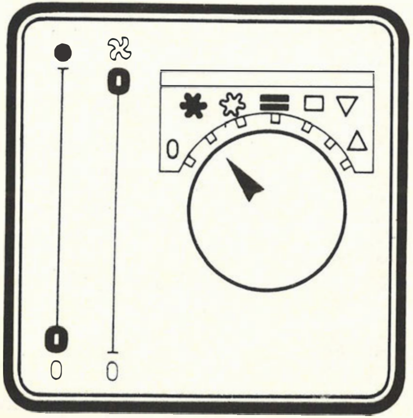
In this manner, air from the passenger compartment is re-circulated and, together with some outside air, cooled again and dried.

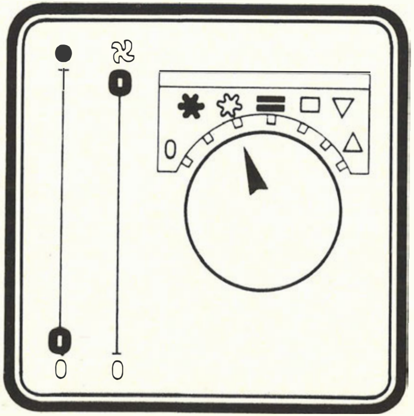
NORMAL COOLING

For normal cooling effect, i.e. when driving on highways or for long distance trips it is sufficient to switch the air conditioning switch to the white star. This permits cooled and dried outside air to enter the car interior. The temperature of this air can be steplessly adjusted with the temperature control lever.

In both of the two cooling positions—blue and white snowflake—air flows exclusively via the centre fresh air inlets and the inlets at the sides. Because of the multiple adjusting possibilities of the inlets the air flow can be directed as desired (refer to pages 00 and 00).

A pleasant novelty of the air conditioning system is the Bi-level position—**blue/red square**—which provides for a cool head and warm feet.



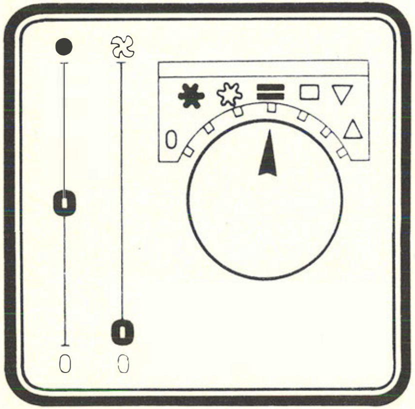


Air Conditioning (cont.)

BI-LEVEL

In this position air from the centre air inlets and the side air inlets flows to the windshield and to the floor area. The temperature of this area and dried air can be steplessly adjusted with the temperature lever. However—particularly in the central position of the temperature level adjusting range—slightly warmer air flows into the floor area while the air from the upper inlets is always slightly cooler.

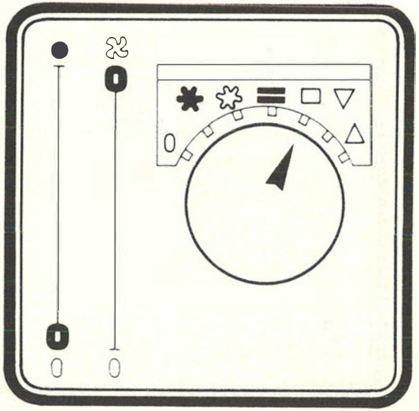
This setting is also suitable to prevent misting-up in humid, warm weather and icing of the windows in winter since cooled, dried and tempered air is circulated through the passenger compartment. Thereby it is practicable to have the upper air inlets at the sides point to the side windows.



The refrigeration element, i.e. the compressor of the air conditioning system, is no longer operating during switching positions of the air conditioning switch described in the following.

FLOW THROUGH VENTILATION

To **ventilate** the passenger compartment it is recommended to set the air conditioning switch to the **green square**. In this position the air flows in via the central fresh air inlets and the ventilation inlets at the sides. The air from the central fresh air inlets—can be heated, depending on the position of the temperature lever. This position is intended for cool or moderate weather without any cooling requirements.



HEATING

Heating during the cold season is best and most uniformly effected via the floor area with the switching position **white triangle pointing down**.

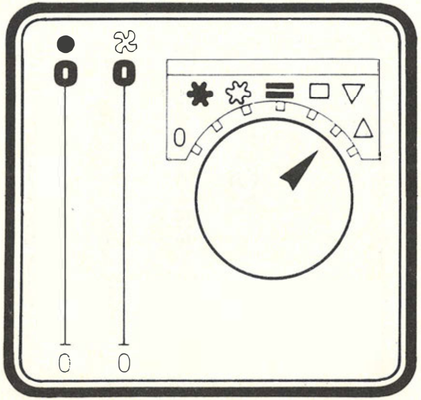
DEMISTING

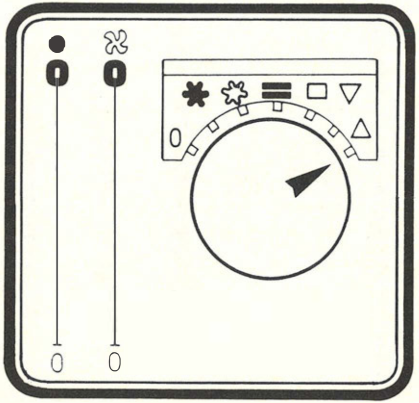
To **demist** the windshield, the switching position **white triangle facing up** must be selected.

In the two above mentioned positions "heating" and "demisting" the temperature of the inflowing air can be steplessly adjusted.

It is also important to know that in the switching position "heating" a small amount of the heated air is always flowing to the windshield.

With the blower switch in the basic position the blower is automatically operating at low speed in all switching positions of the air conditioning switch, except zero position. Different blower speeds, up to maximum speed, can be selected.





Air Conditioning (cont.)
System B

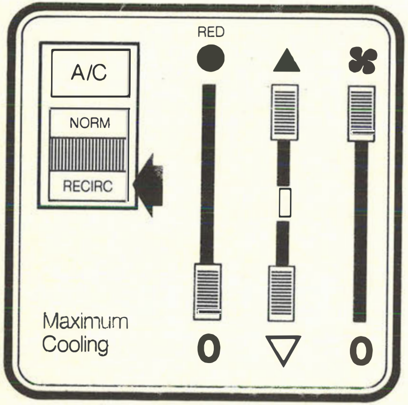
The air conditioning unit is operated by setting the air conditioning switch to RECIRC, and the left temperature control lever to the lowest position. This activates the refrigerated air conditioning unit and recirculates cold air for maximum driving comfort, in warm to hot conditions. The right blower lever is moved upwards from the lowest OFF position to the desired air stream setting. Maximum air intake is achieved with the blower lever in the top position.

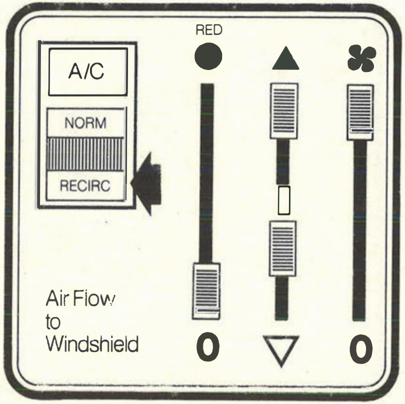
The air conditioning system automatically blends a (small) percentage of fresh air with recirculated cool air when the switch is in the RECIRC position.

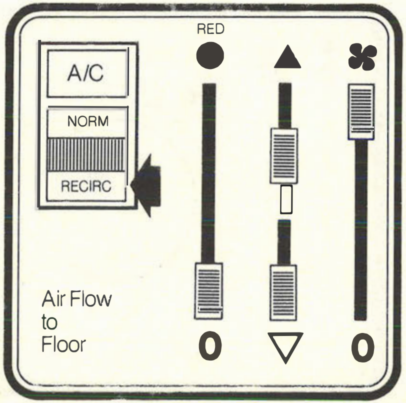
Recirculated air temperature can be regulated by moving the left temperature control upwards.

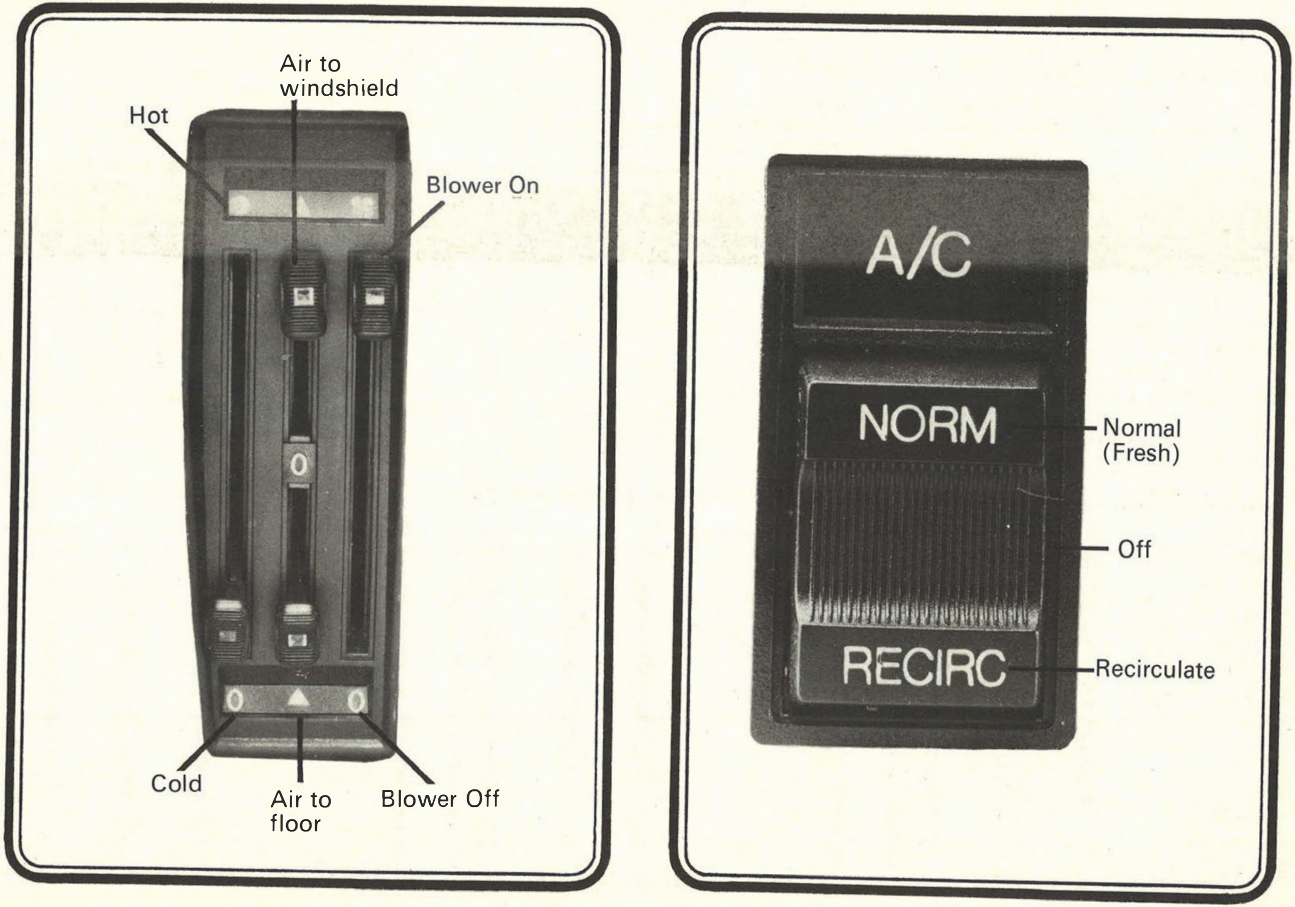
The RECIRC switch setting is recommended when a fast cool down of the vehicle interior is required. In this setting the air conditioning system will provide comfortable driving conditions on hot days and in fumy environments such as traffic.

When fresh outside air is required through the air conditioning system, the switch should be set to NORM. Temperature and blower controls can then be operated in the same manner as the RECIRC setting.








Air to windshield
Hot
Blower On
Cold
Air to floor
Blower Off
A/C
NORM
RECIRC
Normal (Fresh)
Off
Recirculate

Control levers set for cooling.

Air Conditioning (cont.)

AIR DISTRIBUTION

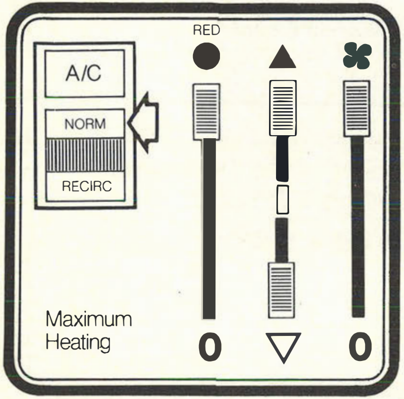
Air flow into the vehicle is directed by moving the centre levers from 0 position down or up. The lower lever directs air to the floor and the upper lever directs air to the windshield. To direct maximum air flow to either of these areas it is necessary to close the centre and side air inlets in the instrument panel by using the appropriate regulator wheels. (See page 43). Normally these inlets can be left open to achieve a balanced distribution of air to the desired area. Air will be evenly distributed by fully opening both centre levers.

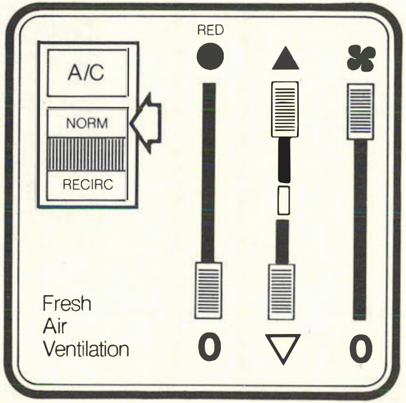
By setting the temperature control lever about midway and opening both centre levers a balance of warm air at the feet and cool air on the windshield can be achieved.

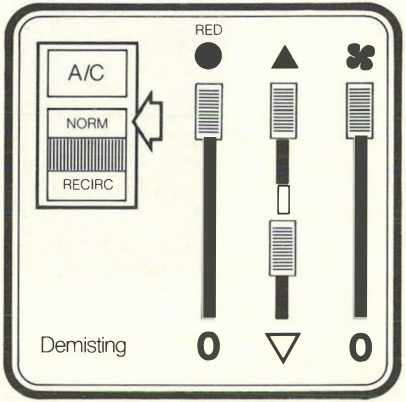
The temperature and ventilation controls for this air conditioning system are the same as the Fresh Air, Heating and Window Demisting controls. With this system it is not possible to have warm air enter the passenger compartment through the centre or side inlets.

The best efficiency of the air conditioner is obtained with windows closed. With extremely high temperatures in the passenger compartment, we recommend to open the windows for a little while—immediately after entering the car and switching the air conditioning on—to permit a speedy escape of the warm air.

The switch above the centre air inlets controls the operation of the air conditioner. When non-air conditioned fresh air ventilation, heating or window demisting is required the switch should be on OFF. The temperature, fan and air direction controls can then be used in accordance with previous instructions.







Optional Features

These features are not fitted as standard equipment and are therefore not applicable to all vehicles.

Superlift Shock Absorbers

These allow direct control of vehicle level, so that when a vehicle is loaded or towing a caravan or trailer, the loaded height can be readjusted to give improved ride and handling and ground clearance in rough terrain. Also, they maintain a better headlamp level when high beam is used.

Superlift shock absorbers use compressed air and can be inflated or deflated through an air valve, similar to any standard tyre.

AIR PRESSURE VALVE LOCATION

Inside the luggage compartment on the right side to the upper rear of the wheel housing on sedans. On wagons, on the left side of the rear door opening in the load compartment.

AIR PRESSURE RECOMMENDATIONS

1. Never allow the pressure to fall below 70 kPa as this will result in damage to the shock absorbers.
2. Maximum permissible pressure when the vehicle is fully loaded is 620 kPa.
3. Maximum permissible pressure when the vehicle is unloaded is 210 kPa.
4. The shock absorbers should be inflated when the vehicle is standing on a level surface and only until:
    - (a) The vehicle appears to be level, or
    - (b) Maximum permissible pressure is reached

    whichever is reached first.
    - (c) Satisfactory ride characteristics will be obtained based on your experience with the system but the above limits must not be exceeded.

"Limited Slip" Differential

Where this differential is fitted, it can be identified by a metal tag retained by the axle filler plug. The label calls attention to the need for special oil in this type of axle which must comply with the **GM HN1561 Specification.**

Use of unsuitable oil could result in noisy operation and/or excessive wear.

The "Limited Slip" Differential directs the major driving force to the rear wheel having the greater amount of traction, but it will not interfere with the normal differential action.

When the rear wheels are under extremely unbalanced tractive conditions (such as when one wheel is on a dry road surface and the other is on ice or mud) wheel spin can occur if over-acceleration is attempted. This condition may also be experienced if the dirver over-accelerates on a wet road where a sharp bend must be negotiated. It is important that there be no excessive rear tyre differences. One indication of this condition is swerving on acceleration. If this is encountered, check the rear wheels for different tyre size, air pressures of excessively different wear and tread patterns.

CAUTION: Never run the engine with a gear engaged and one wheel raised if the vehicle is fitted with a "Limited Slip" differential. The driving force directed to the wheel on the ground will cause the vehicle to move.

OPTIONAL FEATURES (cont.)

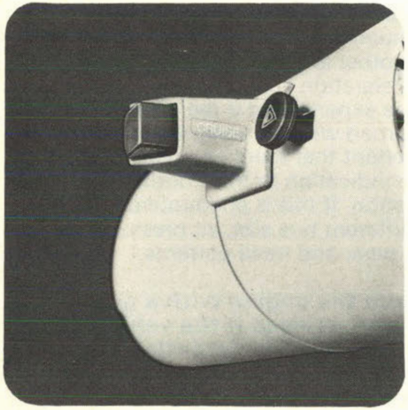
Cruise Control (where fitted)

The Cruise Control is an automatic speed control system, which allows the driver to control his speed over a wide range of operating conditions.

Within the engine limitations, a constant speed of 50 km/h or higher can be held, thus increasing comfort and economy on freeways, highways and open roads.

How to operate

The Cruise Control system is activated by accelerating to the desired speed, then depressing and slowly releasing the control button on the left side of the steering column.



You may then remove your foot from the accelerator pedal. The car's speed will be automatically maintained. Car speed may be increased for highway passing and the system overridden simply by depressing the accelerator pedal. The system will automatically return to its previous setting once the accelerator is released.

To permanently increase speed while the Cruise Control is engaged, simply accelerate to the desired speed, then depress the control button and release slowly.

Disengagement

To decrease speed once the system is engaged, depress the brake pedal lightly. When the desired speed is reached, it will be necessary to once again press the Cruise Control button. Speed reduction may also be achieved by depressing the button fully and holding it firmly until the desired speed is reached.

The automatic Cruise Control system is instantly released by lightly touching the brake. The system is also released when the ignition system is turned off. Once off, the system can be activated again by using the control button.

Caution: Do not use the Cruise Control when road or driving conditions could require varying speeds. A constant speed may not be practical in heavy or varying traffic, or on winding, slippery or rough roads.

Remember that taking your foot off the accelerator when the Cruise Control is engaged does not let the car slow down. Touching the brake pedal will disengage the system and allow the car to slow down.

When going up or down hills, (particularly when towing a trailer) it is possible for the car to gain or lose speed even though the Cruise Control is operating. In that case, you may need to disengage the system and resume manual speed control.

Radio

Operating Instructions

ON/OFF Switch and VOLUME Control: Push the Volume control to switch the receiver ON; a second push will switch the receiver OFF. Turn the control to increase or decrease volume.

Manual Tuning Control: The receiver may be tuned at any time by means of the Manual Tuning control; this will not affect the ability of the push-buttons to recall preselected stations.

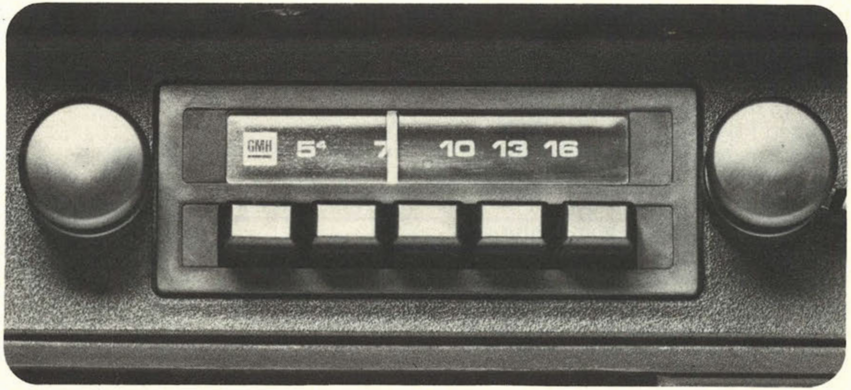
Pushbuttons: The pushbuttons enable you to tune the receiver to any of five preselected stations without the need to operate the Manual Tuning control.

Resetting Pushbuttons: You may alter the station to which any particular pushbutton is preset simply by resetting that pushbutton (see below); you may reset any or all of the pushbuttons in this way as often as you like. Although you may reset the pushbuttons in any order, it may be convenient to work along the pushbuttons from left to right, preselecting your preferred five stations, from left to right across the dial.

Alternatively, you may reset the pushbuttons in order of your station preference so that your favourite station is selected by the first pushbutton, your next preference by the second pushbutton, and so on.

To reset the pushbuttons to the required stations, proceed as follows:

1. Switch the receiver ON.
2. Set the VOLUME control to a higher than normal position.
3. Unlock the pushbuttons (or pushbutton) by pulling firmly outwards.
4. Accurately tune the receiver to the required station with the Manual Tuning control.
   Note: Subsequent pushbutton tuning can only be as accurate as your initial setting up.
5. Lock pushbutton to the station by pushing in firmly.
6. Repeat steps 4 and 5 for each remaining station and pushbutton.



Tone Control: Set the control to give the tone you find most satisfactory. When listening to speech, it may be found beneficial to increase the treble (turn control clockwise). Outside interference will be reduced by turning the control anti-clockwise.

Antenna Operation:

Lock Down: If a lock down antenna is fitted, the outermost (largest diameter) section must be fully extended, the other sections may then be raised progressively for distant reception.

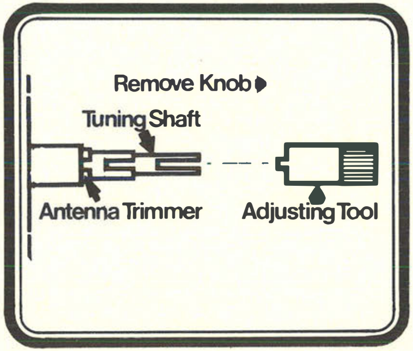
If it is desired to extend only the outermost section it is necessary first to fully extend all sections, then retract the inner sections.

Motorised: If a motorised antenna is fitted, an instrument panel switch enables the antenna to be raised or lowered from the driver's position; for best reception all sections should be fully extended and then retracted as desired.

To preserve the finish and permit the telescopic sections to be moved up and down with ease, clean the antenna occasionally with petrol or kerosene and apply a thin coating of lanolin, petroleum jelly or non-abrasive wax polish.

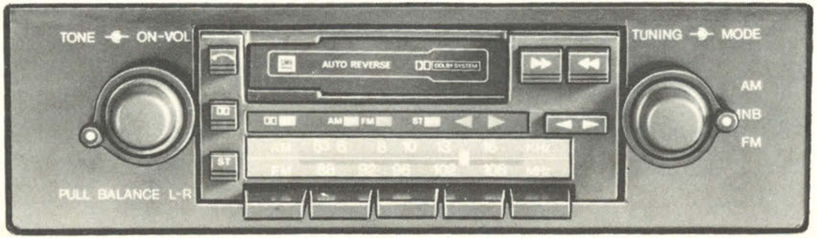
Antenna Trimmer Adjustment

The antenna trimmer must be adjusted at conclusion of installation. Fully extend antenna. Retract inner sections until antenna is approximately half extended height. Tune receiver to weak station near 1000 kHz (centre of dial). Adjust antenna trimmer positioned on tuning shaft (refer diagram) using special tool provided, turn trimmer clock or anti-clockwise for maximum volume.



Radio and Stereo Cassette Tape Player

1. **On/Off Volume Switch**
   Push this in to turn the radio on. A second push will turn it off. Turn the knob to alter volume. The power antenna will automatically extend and retract when this switch is on and will remain retracted with this switch off.
2. **Tape Eject**
   Push to eject tapes. Once a tape has been ejected the radio will play if the control switch is on.
3. **Tone Control**
   The tone control lever is located behind the L.H. Knob (On/Off Switch).
4. **Dolby ® Switch**
   For use with Dolby ® tapes.
5. **Balance Control**
   Pull out and turn the left hand knob (On/Off Switch) to balance sound between the front and rear speaker.
6. **Stereo Button**
   This push-button should normally be set to "stereo" which is indicated by the light next to the illuminated display. In certain fringe areas better reception may be obtained on "Mono" setting.
7. **Push Button Tuning Controls**
   These allow you to tune to any of five pre-selected stations without having to twiddle the tuning knob. To set the buttons first turn the radio on and turn the volume up louder than normal. Unlock the push-button you wish to set by pulling out firmly. Now use the manual tuning knob to tune to the station you want. Take time to tune precisely then push in the button until it locks. Repeat for the other push buttons. A total of five AM or five FM or any combination of AM and FM stations can be preset.



8. **Tuning Control**
   This control allows you to manually tune the radio.
9. **AM/FM**
   A 3-way switch is located behind the tuning control. The top setting is for AM reception and the centre setting for FM. The bottom setting provides FM reception for distant stations but with consequent increase in background noise level.
10. **Track Change**
    Tape programme tracks are changed by pushing this button.
11. **Fast Forward/Rewind**
    These buttons allow you to advance or rewind the tape as desired. For fast forward push

the button with arrows in the same direction as the illuminated track direction indicator. For rewind push the button which has the arrow in the opposite direction.

12. Stereo Indicator

This green panel illuminates when the stereo button has been set.

13. Track Direction Indicators

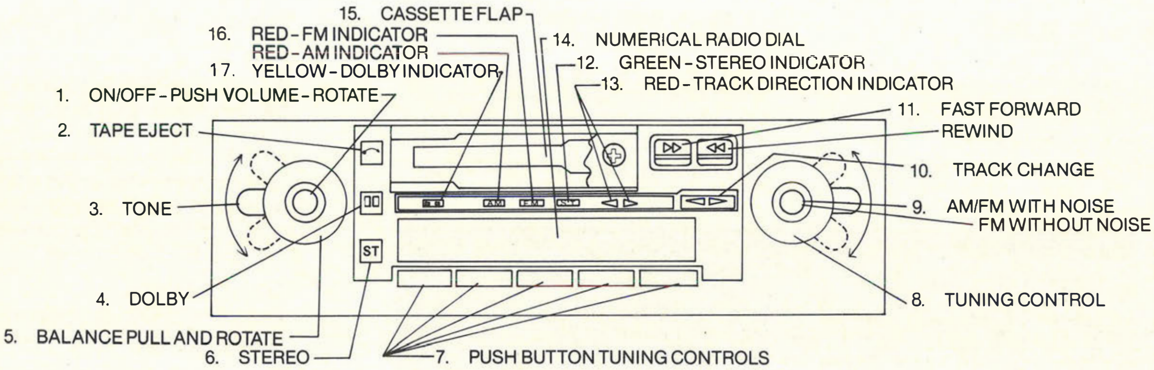
14. Numerical Radio Dial

15. Cassette Tape Operation

The tape system automatically overrides the radio. To play a tape turn the radio on and then insert the cassette—the radio will switch off when the cassette is fully in. When the tape starts playing adjust volume, tone and balance to suit. The cassette will automatically eject when the ignition is turned off.

16. AM/FM Indicators

17. Dolby ® Indicator


15. CASSETTE FLAP
16. RED - FM INDICATOR
RED - AM INDICATOR
17. YELLOW - DOLBY INDICATOR
14. NUMERICAL RADIO DIAL
12. GREEN - STEREO INDICATOR
13. RED - TRACK DIRECTION INDICATOR
1. ON/OFF - PUSH VOLUME - ROTATE
2. TAPE EJECT
11. FAST FORWARD
REWIND
10. TRACK CHANGE
3. TONE
9. AM/FM WITH NOISE
FM WITHOUT NOISE
ST
AM
FM
ST
4. DOLBY
8. TUNING CONTROL
5. BALANCE PULL AND ROTATE
6. STEREO
7. PUSH BUTTON TUNING CONTROLS

AM/FM Radio and Stereo Cassette Tape Player

The Two Types of Radio Signals

There are two basic types of radio signals — AM or Amplitude Modulation, in which the transmitted sound causes the amplitude, or height, of the radio waves to vary — and FM or Frequency Modulation, in which the frequency of the wave is varied to carry the sound.

AM Signal Range

AM broadcast waves can curve or bend around obstructions, and thus tend to follow the curvature of the earth. The upper atmosphere (ionosphere) reflects AM signals back to earth, so stations can be heard at fairly long distances, especially after dark when the ionosphere layer rises.

FM Signal Range

FM broadcast waves do not bend, but rather reflect off some solid objects. They usually pass through the ionosphere and are not reflected back to earth. This gives them a straight line-of-sight transmission, which limits good FM reception to about 25 miles (40 km).

Electrical Disturbances

Radio waves may pick up electrical disturbances during transmission. They mainly affect the wave amplitude, and thus remain a part of the AM reception. They interfere very little with the frequency variations that carry the FM signal.

AM Reception — Because AM sound is based on wave amplitude, it's not possible to filter out the electrical static without removing the sound as well. As a result, AM reception can be disrupted by such things as lightning, power lines and neon signs.

FM Reception — Because FM transmission is based on frequency variations, interference that consists of amplitude variations can be filtered out, leaving the reception relatively clear, which is the major feature of FM radio.

Hints to improve Radio Reception

1. Understand the limitations of radio signals and reception in a moving vehicle.
2. The factors that degrade radio performance can be minimized in some of the following ways:

- Use the manual tuning control to fine-tune the radio to optimize reception.
- Use the tone control to reduce annoying static interference (less treble, more bass).
- Tune the radio to a stronger signal.
- to achieve optimum performance in fringe areas the FM radio stereo reception can be improved by operating in "mono" mode. The actuating switch which is a "push-on, push-off" design, is located on the left hand side of the tape cassette slot.

Care of Cassette Tapes

Always stop the player before turning off the car ignition or switching back to radio, otherwise damage to the player mechanism could result. On the completion of playing a tape, the cassette should be removed and stored in a suitable container. We recommend the use of C 60 tape cassette of well known manufacturers. Chromium-dioxide, ferric-oxide, and FeCr-cassettes are suitable for playback.

Do not leave cassettes on the seat or instrument panel for lengthy periods. Accumulation of dust on the cassette will ultimately cause damage to both tapes and player mechanism.

Do not expose cassette to direct sunlight. In hot weather it is recommended that you remove the cassette tapes from the vehicle and take them indoor.

The recorder requires no special maintenance. However, the rubber pinch roller and the tape head should be cleaned after 100 hours of operation so as to remove the inevitable accumulation of dust.

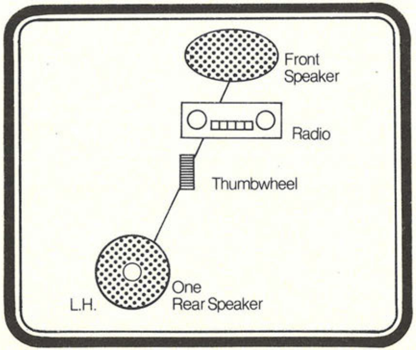
Use a cotton plug moistened with alcohol and preferably wound round a matchstick. Never use sharp instruments.

Speaker Controls

The standard radio speaker is located at the top of the instrument panel in the front section of your vehicle. For models fitted with an AM/FM radio or AM/FM radio and stereo cassette player a **second** speaker is located on the left hand of the shelf above the back seat. This **second** speaker is also available as an option for mono radios.
An optional **third** speaker is available for models fitted with AM/FM radios or AM/FM radio and stereo cassette players. This **third** speaker is located on the right hand side of the shelf above the back seat.
The balance controls for these speaker systems varies depending on the radio system and the number of speakers fitted.

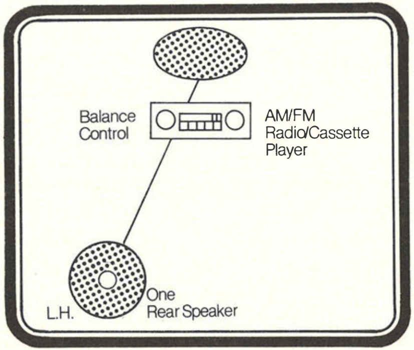
1. Mono Radio with Optional Rear Speaker.

The balance between the front and rear speaker is controlled by moving a thumbwheel which is located in the instrument panel. Sound can be directed from either or both speakers depending on the thumbwheel setting.


Front Speaker
Radio
Thumbwheel
L.H.
One Rear Speaker

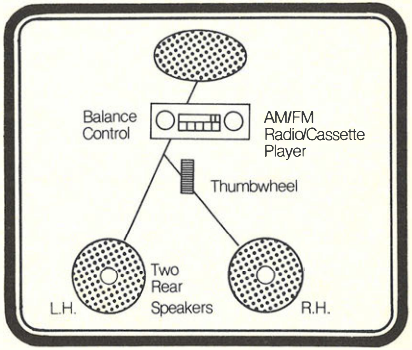
2. AM/FM Radio and/or Stereo Cassette Player

The balance between the front and rear speaker is controlled by turning the grooved knob on the left hand side of the radio fascia behind the volume control. (See page 60.)


Balance Control
AM/FM Radio/Cassette Player
L.H.
One Rear Speaker

3. AM/FM Radio and/or Stereo Cassette Player with Optional Third Speaker

The front speaker and standard left hand rear speaker are balanced by turning the grooved control knob on the left hand side of the radio fascia behind the volume control. (See page 60.) The **optional** third speaker is controlled by a thumb wheel which is located in the

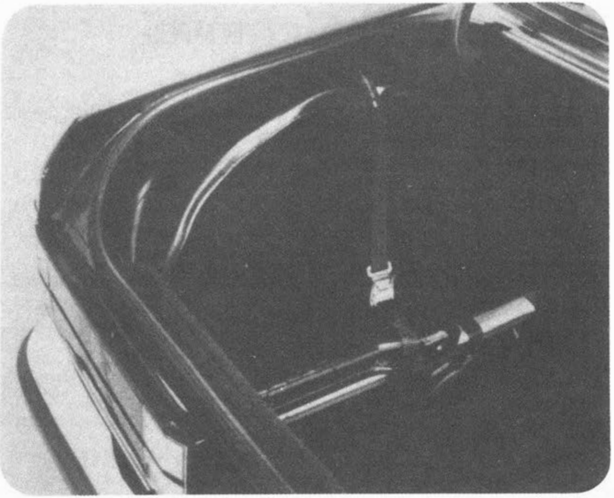

Balance Control
AM/FM Radio/Cassette Player
Thumbwheel
L.H.
Two Rear Speakers
R.H.

instrument panel. In this instance the left channel is directed to the left rear speaker and the right channel to the fader control (thumbwheel). Operation of the fader control then varies signal proportion between centre front and right rear speaker e.g. with balance control on the radio set to left channel no sound will be available from centre front or right rear speakers.

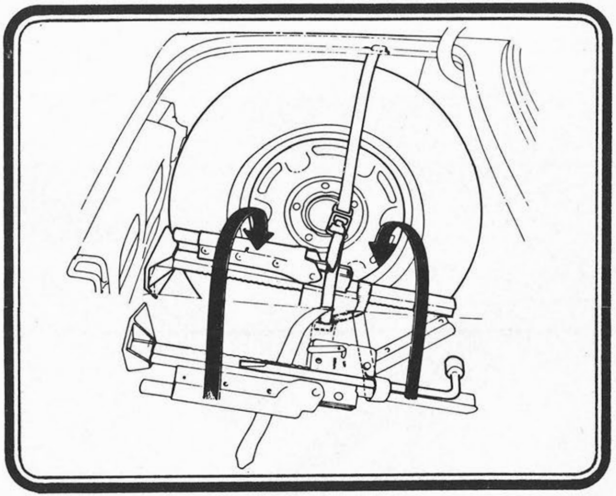
Section 3 Emergencies, Safety and Emission

Spare Wheel Storage — Sedan

The spare wheel, jacking equipment, and wheel nut wrench are stored in the left rear quarter panel of the luggage compartment.



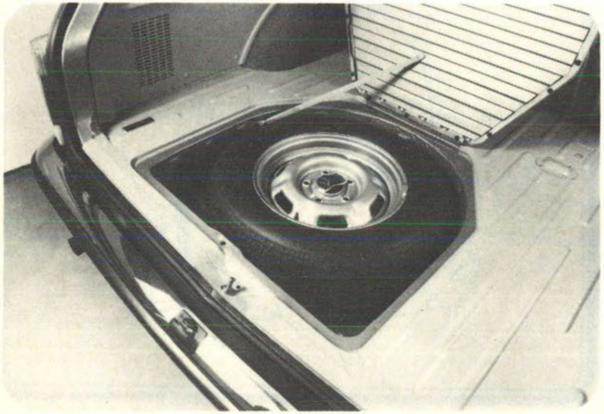
The spare wheel is secured by a strap, the jack base rests on the rear of the spare wheel well. To release the spare wheel push buckle upwards.



Spare Wheel Storage — Station Wagon

To Remove

1. Roll back carpet and unlock the wheel storage hatch cover by twisting the locking ring.
2. Open the cover to the full extent.
3. Unscrew the wheel retaining bolt.
4. Remove spare wheel.
5. Unscrew wing nut on the jack retaining stud and remove the jack and wheel nut wrench.



To Replace

1. Place wheel nut wrench into jack column.
2. Position jack base under wheel support bracket.
3. Slide rachet mechanism along jack column so that the hole in the ratchet mechanism will locate with the stud protruding from the rear of the wheel well.
4. Position jack assembly and secure with wing nut.
5. Replace wheel in wheel well and secure with wing bolt.
6. Close and lock hatch cover and replace carpet.

Wheel Trim Removal

To Remove (all models)

Loosen the wheel nuts until the wheel centre cover can be removed. Replace and tighten wheel nuts to the correct torque. (Refer page 100.)

To Replace (L6 and V8)

Locate wheel centre cover on wheel studs. Tighten wheel nuts finger tight to locate wheel centre cover. Then using wheel wrench, tighten wheel nuts to correct torque. (Refer page 100.)

To Replace (4 Cylinder)

To replace the wheel centre cover position it over the wheel nuts and push it in until it snaps into place.

Replace the wheel nut covers.

CAUTION: It may be necessary to protect the hand during this operation.

Wheel Trim Ring (where fitted)

To Remove

Insert the blade end of the wheel nut wrench between the outer edge of the wheel trim ring and the wheel, diagonally opposite the tyre valve. With light blows using the palm of the hand and directed towards the wheel hub, force the wrench inwards for half the length of the blade (wedge) section. Then at several points around the wheel lightly pry the trim ring off by moving the wrench away from the tyre, using the wheel as a levering point.

To Replace

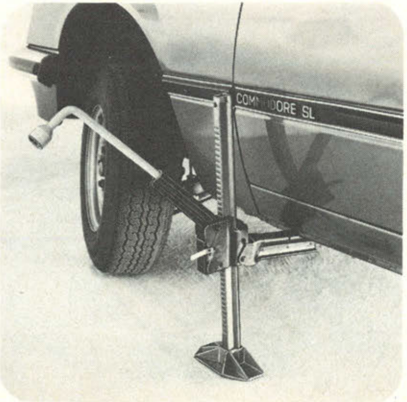
Position the trim ring so that the valve hole in the ring is directly over the valve. While pressing the ring firmly against the wheel at a position below the valve, knock the ring onto the wheel with several light blows using the palm of the hand. Repeat this operation at several positions around the edge of the ring until a secure installation is obtained.

CAUTION: It may be necessary to protect the hand during this operation.

Wheel Changing

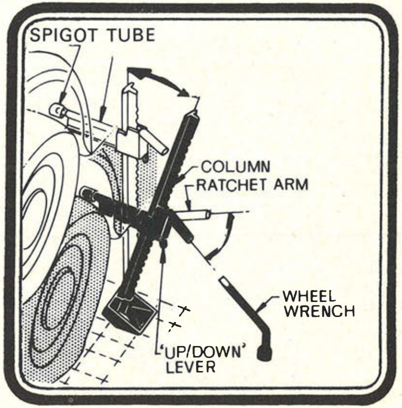
Safety Hints

1. Carefully follow jacking instructions in order to reduce the possibility of serious personal injury.
2. The jack is designed for use ONLY when changing wheels.
3. Never get beneath the vehicle when supported by the jack only.
4. Do not start or run the engine while the vehicle is on the jack only.
5. All Passengers should be out of the vehicle when it is on the jack and the handbrake should be firmly applied.

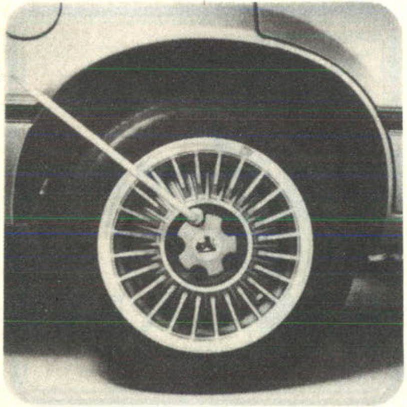


Instructions

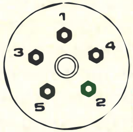
1. Park on level surface and set parking brake firmly.
2. Set automatic transmission in park (manual transmission in reverse) and remove ignition key.
3. Remove the tools and spare wheel (Refer previous instructions).
4. Block the wheel diagonally opposite the jacking position.



5. Remove the wheel trim (Refer previous instructions). Using the wheel nut wrench slightly loosen the wheel nuts but do not remove them.
6. Place column in base, feed spigot into tube provided in vehicle body and position base as illustrated.
7. Move 'up/down' lever to 'UP' position, insert wheel wrench into ratchet arm and with steady pumping action raise vehicle until tyre clears ground.
8. Remove the wheel nuts and avoid losing them or getting dirt in the threads. Remove the wheel and change it over with the spare.
9. Replace wheel centre cover (where fitted).
10. Tighten the wheel nuts finger tight and then partially tighten using the wrench.
11. Move 'up/down' level to 'DOWN' position, lower vehicle using steady pumping action then **fully tighten** wheel nuts using the sequence illustrated. A load of approximately 25 kg on the end of the wheel nut wrench is adequate.
12. Completely lower the vehicle and remove the jack.
13. Replace the wheel trim and stow the tools and changed wheel according to the previous instructions.



CAUTION: As soon as practicable, after a wheel change, the wheel nut torques should be checked at GMH Dealership, or by a competent person, to ensure correct tightness. Refer page 100 for wheel nut torque specifications.



Wheel Nut Tightening Sequence

Overheating

If this happens, stop by the road side and let the engine idle for about two minutes. Then turn it off and open the bonnet.

While the engine is cooling, check your fan belt for slippage or breakage and check for damage to the radiator hoses. Take care as the hoses will be hot.

When the engine is cool, check the coolant level in the radiator as follows:—

Cover the radiator cap with a heavy cloth and turn it to the left — don't press down on it. You will probably hear a hissing noise now as pressure is released. When this stops, continue to turn the cap, pressing down this time, until it can be removed.

Check the coolant level and add water if necessary. Add water with the engine idling and only when the engine is quite cool.

If overheating occurs again, get a mechanic to the car as quickly as possible.

CAUTION: DO NOT remove the radiator cap while the engine is still hot because the cooling system can blow out scalding fluid and steam under pressure which is likely to cause serious personal injury and loss of coolant.

Caravan or Trailer Towing

IMPORTANT: Your Commodore is designed primarily as a passenger vehicle so handling, durability and economy may be affected by towing a caravan or trailer.

Before you even think about doing this, check that the correct equipment is fitted to your vehicle. Your GMH Dealer will help you.

Never exceed the loadings given in the table on page 71.

Running-in Period

It is best to drive your new Commodore for 1 500 kilometres before towing a load. If you must tow before this do not exceed 80 km/h.

The same applies if you have a new or reconditioned engine, transmission or rear axle.

Maintenance — Automatic Transmission

More frequent vehicle maintenance is required when using you vehicle to pull a trailer. Where an automatic transmission is fitted the transmission fluid will need to be changed every 12 months or 20,000 kilometres.

Tongue Load

Your Commodore-caravan combination will handle best if the load at the attachment coupling is kept within the limits specified on page 71.

If you don't have an equalising load levelling hitch fitted then the load in the rear compartment should be reduced an amount equal to the load on the coupling (i.e. 10% of caravan weight).

If an equalising load levelling hitch is correctly used you don't need to reduce the load.

Tyres

When towing, your tyres should be inflated to the maximum recommended pressure.

Electrical connection

A special wiring harness is available from your GMH Dealer or accessories stockist. This is the only system recommended by GMH and use of any other may affect your warranty.

DANGER: If you remove your tow bar be sure to have any mounting holes properly sealed. Dangerous exhaust fumes can enter through these holes.

CAUTIONS:

1. **A frame mounted equalizing hitch with a sway control of sufficient capacity is required for trailers over 900 kg loaded weight on all models.**
2. **Do not use axle-mounted hitches. They can cause damage to the axle housing, wheel bearings, wheels or tyres.**
3. **Trailer brakes are required on trailers over 500 kg loaded weight except where State Laws may specify a lower limit. Some States specify the maximum load to be towed must not exceed the vehicle weight.**
4. **It is permissible to tap into the rear brake system with a unit using not more than ·21cc of fluid. It must not be fitted to the front brake system.**
5. **CAUTION: WHENEVER A TOWBAR IS REMOVED BE CERTAIN TO HAVE ANY MOUNTING HOLES IN THE UNDERBODY PROPERLY SEALED TO PREVENT THE POSSIBLE ENTRY OF EXHAUST FUMES, DUST AND WATER.**

Permissible Operating Loads

Before contemplating the towing of a trailer or caravan, it is necessary to check that the correct equipment is fitted to the vehicle to cover both the legal and manufacturer's requirements. Therefore, the matter should be discussed with your local Authority and a GMH Dealer.

APPLICATION	MAXIMUM TRAILER WEIGHT (TARE LOAD) ALL MODELS
"A". No brakes fitted to trailer.	500 kg
"B". Fitted with independently operated trailer brakes and a standard GMP & A tow-bar. When ball load exceeds 75 kg, install GMP & A level rides. Do not exceed a ball load of 120 kg (confirmed by durability and SAE tests).	1200 kg
"C". Fitted with an independent driver operated trailer brake system and a reputable heavy duty tow-bar and load levelling device. GMP & A quarter panel braces (package No. 92014789) to be fitted to sedan vehicles. Do not exceed a ball load of 160 kg (load at coupling before connecting level rides).	1590 kg Equivalent to SAE Class 2 loading.

Safe Towing

- Your vehicle will handle differently with a load behind. It's a good idea to make a couple of short distance trips with the caravan or trailer before you set off on the big one.
- Have your engine tuned before you leave.
- You should have an extended-arm mirror on **both** sides of the vehicle.
- Headlights should be re-aimed after the loaded caravan has been hitched up.
- Use a lower gear, rather than your brakes, when going down steep hills.
- If your caravan or trailer runs off the road behind you — and this is fairly common — allow the left wheels of the vehicle to run off as well. Then wait for an opportunity to steer back on to the road. A sudden attempt to steer back will make you swerve dangerously.

Loading Your Commodore

Overloading is a safety hazard and could also shorten the life of your vehicle or its parts. Your GMH Dealer can advise you about maximum loading limits for your particular vehicle.

Tyre Maximum Load Rating and Maximum Vehicle Loading

Kerb weight is the weight of an unloaded vehicle which includes the weight of all coolants and lubricants together with a full tank of fuel. It must be understood that the maximum load rating shown on the tyre placard is not an actual load capacity that can be used for each wheel.

While the tyre manufacturers rate the tyre for this load application at the maximum pressure shown on the placard, the vehicle manufacturer's suspension, ride and handling characteristics must be taken into account. Therefore, the maximum rear axle loading or the maximum loaded vehicle weight should not be exceeded.

Towbar Loads

The load imposed on the towbar ball must be included in the maximum rear axle loading and the maximum loaded vehicle weight, (refer chart page 71) unless a load equalising hitch is used which fully compensates for towbar ball load by restoring the towbar tongue height to the unhitched position.

Roof Rack Loads

No increase in maximum loaded vehicle weight is allowable where a roof rack is fitted. It must be understood that roof rack loads alter the handling characteristics of a vehicle due to a change in the centre of gravity. When carrying loads on the roof rack avoid abrupt swerving or sharp steering manoeuvres. The load should be evenly distributed. A load of no more than 68 kg is suggested as a reasonable limit.

Booster Springs and Superlift Shockabsorbers

The use of booster springs or superlift shockabsorbers DOES NOT increase the load capacity of the vehicle. The maximum loads shown in the chart below must NOT be exceeded if overloading of axle components and the consequent shortening of service life is to be avoided.

Superlift shockabsorbers do allow adjustment of the vehicle's height, so that improved ride and handling and better ground clearance in rough terrain may be obtained when running heavily laden.

See next page for vehicle weight chart.

Vehicle Weight Chart

Model	Estimated Kerb Weight kg.	Maximum Rear Axle Loading kg.	Maximum Loaded Vehicle Weight kg.
Commodore Sedan	1220	905	1724
Commodore Station Wagon	1281	990	1813
Commodore SL Sedan	1255	922	1754
Commodore SL Station Wagon	1320	1008	1851
Commodore SL/E Sedan	1400	944	1877
4 Cylinder Sedan	1158	879	1616
4 Cylinder Sedan SL	1200	894	1644
4 Cylinder S/Wagon	1210	968	1709
4 Cylinder S/Wagon SL	1258	987	1752

NOTE: The estimated kerb weight represents a standard vehicle without options but with a full tank of petrol.

Where a V8 engine is fitted as an option 91 kg should be added to the kerb weight and the maximum loaded vehicle weight.

*Front Axle Loading L6 minimum 669 kg maximum 838 kg
V8 minimum 802 kg maximum 925 kg

At all times the total of the front axle load and the rear axle load should not exceed the maximum loaded vehicle weight.

Towing a Disabled Vehicle

1. Towing by Tow Truck

The vehicle should be raised until the lifted wheels are a minimum of 10 cm from the ground, care should be taken to ensure adequate ground clearance at the opposite end of the vehicle.

IN cases of rear end damage it may be necessary to lift the rear end of the vehicle and tow on the front wheels only. In such cases the steering wheel must be clamped in the straight ahead position using a clamping device designed for towing service use, such as those provided by towing equipment manufacturers. Do not use the vehicle's steering column lock for this purpose.

2. Towing by a Tow Rope Type attachment

The tow rope and safety chains must be attached to one of the two eyes on the front axle. Make certain that the rope attachment to the tow vehicle is as low as possible.

For the sake of safety and to prevent damage to the vehicle and tow rope it is advisable to avoid jerky movements and to drive slowly during towing operations.

It is always preferable to have a vehicle towed by a tow truck. If this is not possible heed the following cautions.

Never tow a vehicle on four wheels with the ignition switch in LOCK or ACC.

Never tow a vehicle at speeds over 80 km/h.

Power assisted brakes, refer page 32.

Don't attach lifting hooks or chains to bumper bars or bumper brackets, or to any damaged part of the vehicle.

Only the driver should be in a towed vehicle.

Vehicles with damaged transmissions must not be towed unless the propeller shaft has been removed.

Automatic vehicles must not be towed for more than 55 km or at over 55 km/h unless the propeller shaft is removed.

In Case of Emergency

CAUTION: Never tow a manual transmission-equipped vehicle to start, because the surge forward when the engine starts could cause a collision with the towing vehicle.

Push Starting

MANUAL TRANSMISSIONS

Should it ever be necessary to start the engine by pushing the vehicle

1. Place the gear shift lever in NEUTRAL (N).
2. Check the choke or accelerator pedal setting as they apply to the Starting Procedure (page 23).
3. Turn the ignition switch to ON.
   When the vehicle reaches approx. 15 km/h.—
4. Depress the clutch.
5. Select high gear.
6. Slowly allow the clutch pedal to come up.
   When the engine starts—
7. Drive away from the pushing vehicle.
8. Stop your vehicle at the side of the road.
9. Allow the engine operation to normalise before proceeding.

Bumpers and other parts contacted by the pushing vehicle should be protected from damage during pushing.

AUTOMATIC TRANSMISSIONS

If for any reason the starter motor is inoperative, it is **not possible** with an automatic transmission to push start the vehicle.

If the fault is a flat battery, the engine can be started with the aid of a booster battery. (Refer Starting with Jumper Leads.)

Starting with Jumper Leads

The following procedure is for use **only** under the following conditions. Departures from these conditions and procedures, could result in: (1) serious personal injury (particularly to eyes) or property damage from such things as battery explosion, battery acid or electrical burns, or (2) damage to electronic components in either vehicle. If all the conditions cannot be met, or if you are uncertain about them, we strongly recommend for your safety and that of your vehicle that you leave the starting to a competent mechanic.

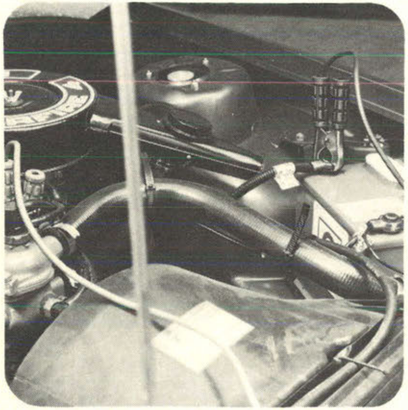
The battery in the other vehicle (booster battery) must be of the **same nominal voltage**, 12 volts and must be negatively grounded. The nominal voltage and grounding of the other vehicle's battery may be determined by checking the specifications in its owner's manual. Use of a booster battery of a higher nominal voltage, or which is positively grounded may result in serious personal injury or property damage.

To Jump Start

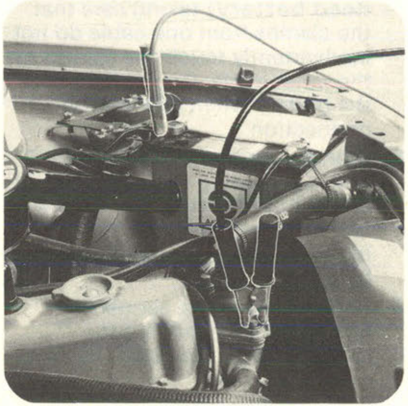
1. Position the two vehicles so they are **not** touching and set the parking brakes. Place the automatic transmission in PARK (**NEUTRAL for manual transmission**) in each vehicle. Also turn off lights, heater and all other unnecessary electrical loads.
2. Remove vent caps* (or covers) from both the booster and the discharge batteries. Lay a cloth over the open vent wells of each battery. These two actions help reduce the explosion hazard always present in either battery when connecting live booster batteries to dead batteries.
3. Attach one end of one jumper cable to the positive terminal of the **booster battery** (identified by a red colour, + or P on the battery case, post or clamp) and the other end of the same cable to the positive terminal of the **discharge battery**.
4. Attach one end of the remaining negative cable to the negative terminal (black colour, — or N) of the **booster battery**, and the other end to your vehicle according to the illustration opposite (**do not connect directly to negative post of dead battery**) taking care that the clamps from one cable do not inadvertently touch the clamps on the other cable. Do not lean over the battery when making this connection.
5. Start the engine in the vehicle that is providing the jump start (if it was not running). Let it run a few minutes, then start the engine in the vehicle with the discharged battery.
6. Reverse the above sequence exactly when removing the jumper cables. Reinstall the vent caps and dispose in a safe manner, any cloths used to cover the vent wells (or covers), as the cloths may have corrosive acid on them.

* Some batteries do not have vent caps.

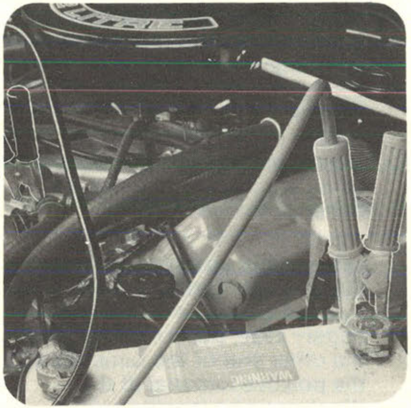
CAUTION: **Never expose a battery to open flame or electric spark — battery action generates hydrogen gas which is flammable and explosive. Don't allow battery fluid to contact eyes, skin, fabrics, or painted surfaces. The fluid is a sulphuric acid solution which could cause serious personal injury or property damage. Flush any contacted area immediately with water. Wear eye protection such as industrial safety spectacles or goggles when working on or near battery. Remove rings, metal watch bands and other metal jewellery before jump starting or working around a battery. Be careful in using metal tools and equipment. If such metal should contact the positive battery terminal (or metal in contact with it) and any other metal on the vehicle a short circuit may occur which could cause personal injury. Batteries and battery acid should always be kept out of reach of children.**



4 Cylinder Engine The final earth connection is onto the cylinder head.



6 Cylinder Engine The final earth connection is onto the cylinder head.



8 Cylinder Engine The final earth connection is onto the thermostat housing retaining bolt.

Emission Control Systems

IMPORTANT: This is an explanation of the operation of the emission control systems fitted to your new vehicle.

Introduction

There are three areas from which pollutants are emitted on an uncontrolled vehicle:

(a) Exhaust System
(b) Crankcase
(c) Fuel System.

A number of modifications have been made by General Motors-Holden's Limited to control the amount of pollutants emitted from your new vehicle.

The systems are very complex in their operation and this Handbook has been produced to assist you in understanding their function by briefly explaining the operation of the various components involved.

Sources of Emissions

During the combustion process in an automotive engine, some of the fuel (hydrocarbons) fails to burn and is discharged into the engine crankcase or exhaust system. Additional hydrocarbons are emitted into the atmosphere through evaporation of petrol vapors from the fuel tank and carburettor. Of the total hydrocarbons coming from uncontrolled automobiles, about 25% are emitted from the crankcase, 20% from the fuel system and 55% from the engine exhaust.

In addition to hydrocarbons, carbon monoxide and oxides of nitrogen are also formed during the combustion process. These are also discharged into the exhaust system.

What General Motors Has Done

Since research on the control of vehicle emissions first began General Motors world-wide resources have developed a number of control systems which are highly effective in reducing undesirable emissions. These systems are discussed in this publication.

Control of hydrocarbon emissions is important since, when subjected to sunlight under certain conditions, they may react with other gases to form photochemical smog. Carbon monoxide does not enter into the complex photochemical smog reaction, but it is itself a pollutant and, thus, has been controlled to prevent high atmospheric concentrations.

Exhaust Emissions

The exhaust of a petrol automobile engine contains three significant air pollutants: carbon monoxide, unburned hydrocarbons, and oxides of nitrogen. It also contains small amounts of solid matter — called particulates — made up largely of lead compounds from the tetraethyl lead used to increase the octane rating of petrol.

Exhaust Emission Control Systems

Controlled Combustion System (CCS) Components

CARBURETTOR

The carburettor has been calibrated to give a leaner mixture of a better quality, particularly at idle or during slow speed operation.

IDLE STOP SOLENOID (4 Cylinder Engines)

An idle stop solenoid which moves to close the idle fuel mixture when the ignition switch is turned off, has been introduced to reduce the possibility of engine run on.

IDLE STOP SOLENOID (6 Cylinder Engines)

The idle stop solenoid cuts off the idle air fuel mixture flowing through the mixture by-pass system when the ignition is switched off. This prevents the engine "running on".

IDLE STOP SOLENOID (8 Cylinder Engines)

The idle stop solenoid allows the throttle valve to close almost completely from the normal engine idle position and so starves the engine of fuel and air. This feature assists in reducing the possibility of engine run-on. The solenoid is de-activated when the ignition switch is turned off. As the operation of the idle solenoid determines the engine idle speed it is important that the accelerator is depressed about half way down while the engine is being started. Refer to the recommended starting procedure in the main part of the owner's handbook.

AUTOMATIC CHOKE (4 Cylinder Engines)

The Varajet II carburettor is equipped with an electrically heated automatic choke. The choke flap is opened progressively by electric heating of the bi-metal spring by means of two heating elements. While the engine is running, voltage is applied steadily to one of the two elements in the choke cover. The second element will begin to heat the bi-metal spring after a defined inlet air temperature is reached. Both elements continue to heat the bi-metal spring once the engine is warm and hence holds the choke open.

AUTOMATIC CHOKE (6 Cylinder Engines)

The choke valve is operated by a bi-metal coil spring which is heated by two heating elements. One element is "ON" whenever the ignition is "ON" while the other is only switched on at a predetermined temperature within the choke cover. As the bi-metal coil warms the closing force reduces and the choke valve progressively opens.

AUTOMATIC CHOKE (8 Cylinder Engines)

The automatic choke is operated by a bi-metallic coil, which is heated by exhaust gas drawn from the exhaust cross-over passage that runs through the inlet manifold. As the coil heats up the choke progressively comes out of operation.

The choke secondary vacuum break is a new feature which provides for increased choke action in cold weather for good driveability. In warm weather the choke action is reduced to prevent stalling. Lower CO and HC emission during warm weather starts result.

This feature is in addition to the main or primary vacuum break whose purpose is to open the choke on cold weather starts to a point where the engine will run without loading or stalling.

EARLY FUEL EVAPORATION (EFE) SYSTEM (L6 and V8 only)

The EFE system is used to provide a source of rapid heat to the engine induction system during cold driveaway. Rapid heating is desirable because it provides for quick fuel evaporation and more uniform fuel distribution to aid cold driveability. It also reduces the length of time carburettor choking is required making reduction in exhaust emission levels possible.

The system uses a valve which increases the exhaust gas flow under the intake manifold during cold engine operation. The valve is vacuum operated and is controlled by a thermal vacuum switch (TVS) which passes vacuum to the valve when the coolant temperature is below the calibration value.

COOLING SYSTEM THERMOSTAT

The thermostat opening temperature is calibrated to meet the requirements of the system during engine warm-up.

IGNITION SYSTEM (L6 and V8 Cylinder only)

The new electronic ignition system provides the high output necessary to fire a spark across the wider plug gaps to burn the leaner fuel mixtures.

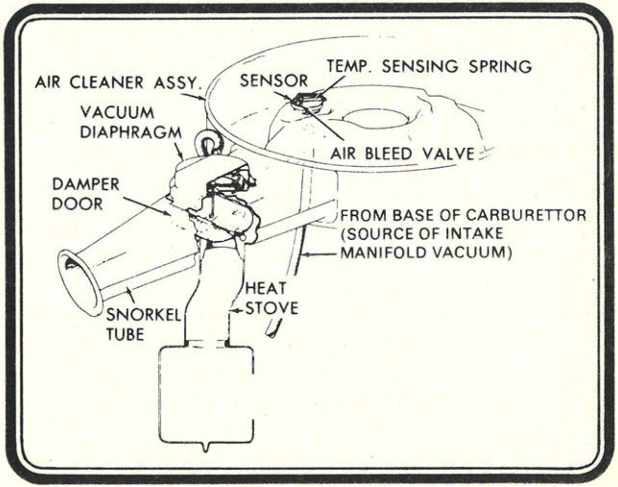
The advance curve of the ignition distributor is designed to meet the emission limits

AIR PRE-HEAT (A.P.H.) SYSTEM (4, 6 and 8 cylinder models).

This system provides a supply of pre-heated air to the carburettor until the engine compartment air temperature reaches a pre-set level.

Pre-heated air is supplied from the exhaust manifold heat stove via the hot air duct to the underside of the air cleaner assembly snorkel. A thermal vacuum valve controls the operation of a vacuum motor which operates the control damper assembly, and this regulates the amount of air supplied from the exhaust manifold stove.

The installation of this system ensures better engine response during the engine warm-up period also, leaner fuel settings can be used, which assists in reducing engine emissions.



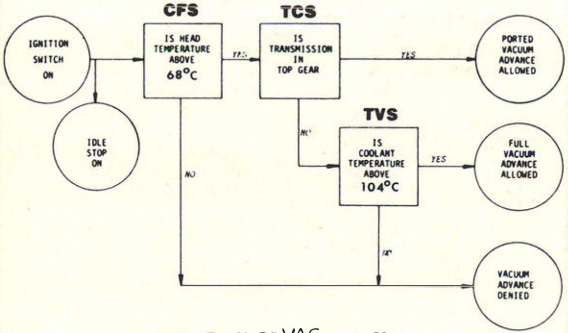
VACUUM ADVANCE CONTROL (V.A.C.) SYSTEM 4, 6 and 8 cylinder models

The basis of this system is the control of the vacuum available to the distributor's vacuum advance mechanism dependent on operating conditions.

The system includes the following three components:—

*(a) Cold Feed Switch (C.F.S.)
*(b) Transmission Control Spark System (T.C.S.)
(c) Thermal Vacuum Switch (T.V.S.)

*Cold Feed Switch: (C.F.S.)
Vacuum advance is denied to the distributor during engine warm-up. When the cylinder heads temperature reaches 68°C the switch closes allowing vacuum to the Transmission Control Spark System.


CFS
TCS
TVS
IGNITION SWITCH ON
IDLE STOP ON
IS HEAD TEMPERATURE ABOVE 68°C
YES
NO
IS TRANSMISSION IN TOP GEAR
YES
NO
IS COOLANT TEMPERATURE ABOVE 104°C
YES
NO
PORTED VACUUM ADVANCE ALLOWED
FULL VACUUM ADVANCE ALLOWED
VACUUM ADVANCE DENIED

OPERATION OF VAC SYSTEM

*Transmission Control Spark System: (T.C.S.)
When the transmission is in top gear ported vacuum is allowed to the distributor.

Thermal Vacuum Switch: (T.V.S.)
When the cooling water temperature reaches 104°C the T.V.S. directs full vacuum to the distributor allowing the engine to run cooler at idle and in the low gears.

*The transmission control control spark system and cold feed switch are not applicable to six cylinder engines with automatic transmission.

Exhaust Gas Recirculation (E.G.R.) System 4, 6 and 8 cylinder models

This system introduces controlled quantities of exhaust gas into the inlet manifold resulting in lower peak combustion temperatures in the combustion process which, in turn, reduces the formation of nitrogen oxides.

A thermal vacuum switch (valve) opens the vacuum line to the exhaust gas recirculation valve only after the engine coolant has reached a predetermined temperature at which time the E.G.R. valve is subject to the engine vacuum signal from the carburettor. This system is not used on 4.2 litre V8 engines when fitted with a manual transmission.

Crankcase Emissions

Emission of hydrocarbons from the engine crankcase is another source of automotive air pollution. This emission occurs in the following manner.

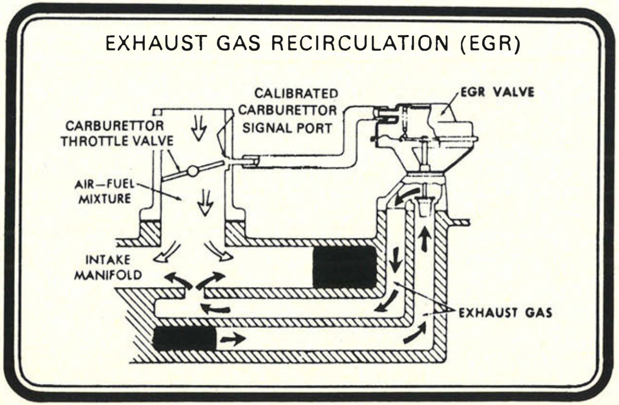
During the combustion process in all petrol engines, some gases escape past the piston rings and into the crankcase. These gases consist largely of unburned fuel. This "blow-by" occurs because of the very high pressures in the combustion chambers.

Crankcase Emission Control System 4, 6 and 8 cylinder models

Positive Crankcase Ventilation (P.C.V.) System

The purpose of the system is to draw the blow-by gases out of the crankcase, into the intake manifold system and thus recycle these gases through the combustion process in the cylinders.

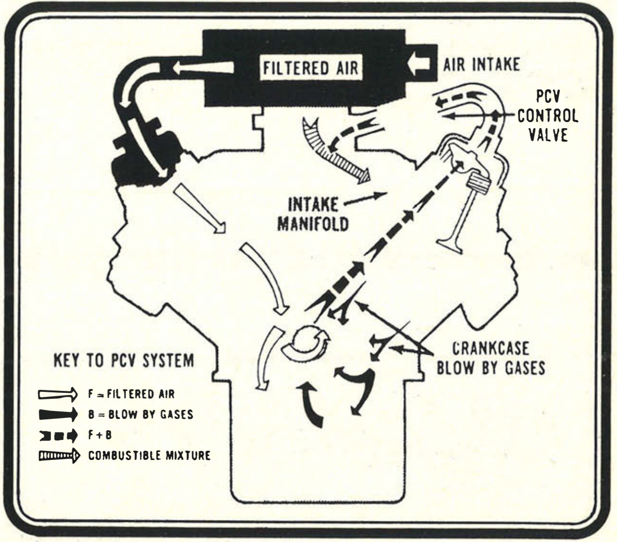
Air is drawn through a filter in the air cleaner and on down through the crankcase where it mixes with the crankcase gases caused by engine blow-by. From here the gases are drawn from the crankcase via a spring loaded, vacuum control valve into the inlet manifold to be burned in the normal combustion process.


EXHAUST GAS RECIRCULATION (EGR)
CALIBRATED CARBURETTOR SIGNAL PORT
EGR VALVE
CARBURETTOR THROTTLE VALVE
AIR—FUEL MIXTURE
INTAKE MANIFOLD
EXHAUST GAS

Evaporative Emissions

Another source of emissions from automobiles is evaporation of petrol. This occurs, not only when the fuel tank is being filled, but at other times, even when the vehicle is not in operation. Special systems to control evaporation have recently been developed, and are now installed on all vehicles.

Schematic of V8 PCV System


FILTERED AIR
AIR INTAKE
PCV CONTROL VALVE
INTAKE MANIFOLD
CRANKCASE BLOW BY GASES
KEY TO PCV SYSTEM
F = FILTERED AIR
B = BLOW BY GASES
F + B
COMBUSTIBLE MIXTURE

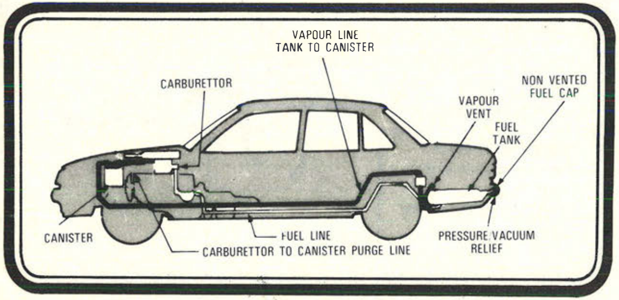
Evaporative Emission Control (E.E.C.) System 4, 6 and 8 cylinder models

The heart of this system is the canister in the engine compartment, which contains activated charcoal granules.

When the engine is not running, fuel vapours from the fuel tank are prevented from entering the atmosphere by the charcoal in the canister where they are adsorbed.

A vacuum purge line connects the canister to the inlet manifold via the carburettor. When the engine is running the vacuum draws air into the canister, and the adsorbed fuel vapour is drawn from the charcoal, forming a mixture with the air which is burnt in the engine combustion process.

A non-vented fuel tank cap is fitted and integral in the cap is a pressure/vacuum relief valve to cater for any differences of pressure or vacuum that may arise.



Maintenance

The required owner emission control systems maintenance operations presented in the Owner Guide and Service Manual should be performed by an authorized G.M.H. Dealer or any other qualified service outlet which regularly performs such services.

Vehicle Operations

The maintenance instructions contained in the Owner Guide, provided with the vehicle, are based on the assumption that your vehicle will be used as designed and is operated in accordance with the instructions provided in the Owner Manual.

Service Manuals

Service manuals, providing greater detail on emission systems, are available for purchase by owners who desire to perform their own vehicle maintenance.

These are available from a G.M.H. Dealer or from:

Stan H. Earle,
46 Isabella Street,
Moorabbin 3189
Victoria

Service Replacement Parts

The emission control systems of your new vehicle were designed, built and tested using GM parts and the vehicle is certified as being in conformity with Australian Design Rules covering emissions. Accordingly, it is recommended that any replacement parts used for required maintenance services or for the repair of emission control system be new GM parts. Use of replacement parts which are not of equivalent quality may impair the effectiveness of such systems.

Engine Identification

The type and capacity of the engine fitted to your new vehicle can be easily identified by the Engine Number prefix. This is usually on the registration label or on the engine block as indicated below.

Engine Number Prefixes

Four Cylinder

VN — 1.9 Litre

Six Cylinder

VD — 2.8 Litre
VL — 3.3 Litre

Stamped on a pad above the engine mounting on the right hand side (Driver's side) of the engine.

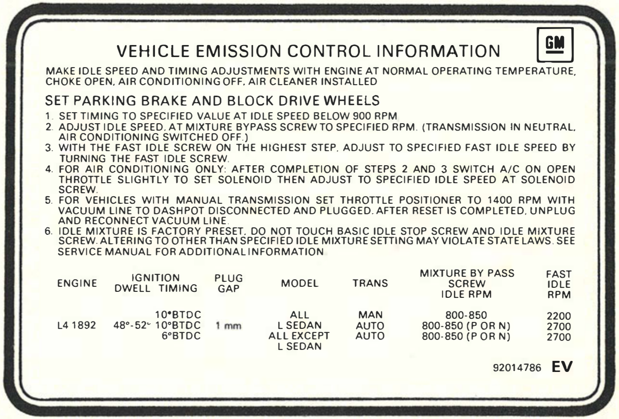
Eight Cylinder

VR — 4.2 Litre
VT — 5.0 Litre

Stamped on a pad on the left hand side (Passenger's side) at the front of the cylinder block above the engine mounting.

Vehicle Emission Control Information Label

This label is located on the underside of the engine hood and provides all the relative specifications to correctly tune the engine of your new vehicle.



VEHICLE EMISSION CONTROL INFORMATION

GM

MAKE IDLE SPEED AND TIMING ADJUSTMENTS WITH ENGINE AT NORMAL OPERATING TEMPERATURE, CHOKE OPEN, AIR CONDITIONING OFF, AIR CLEANER INSTALLED

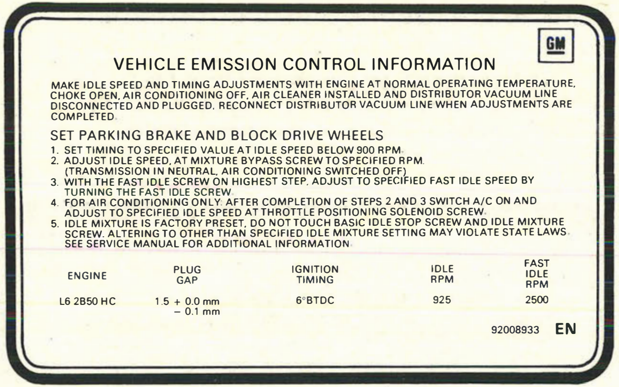
SET PARKING BRAKE AND BLOCK DRIVE WHEELS

1. SET TIMING TO SPECIFIED VALUE AT IDLE SPEED BELOW 900 RPM
2. ADJUST IDLE SPEED, AT MIXTURE BYPASS SCREW TO SPECIFIED RPM. (TRANSMISSION IN NEUTRAL, AIR CONDITIONING SWITCHED OFF.)
3. WITH THE FAST IDLE SCREW ON THE HIGHEST STEP, ADJUST TO SPECIFIED FAST IDLE SPEED BY TURNING THE FAST IDLE SCREW.
4. FOR AIR CONDITIONING ONLY: AFTER COMPLETION OF STEPS 2 AND 3 SWITCH A/C ON OPEN THROTTLE SLIGHTLY TO SET SOLENOID THEN ADJUST TO SPECIFIED IDLE SPEED AT SOLENOID SCREW.
5. FOR VEHICLES WITH MANUAL TRANSMISSION SET THROTTLE POSITIONER TO 1400 RPM WITH VACUUM LINE TO DASHPOT DISCONNECTED AND PLUGGED. AFTER RESET IS COMPLETED, UNPLUG AND RECONNECT VACUUM LINE.
6. IDLE MIXTURE IS FACTORY PRESET. DO NOT TOUCH BASIC IDLE STOP SCREW AND IDLE MIXTURE SCREW. ALTERING TO OTHER THAN SPECIFIED IDLE MIXTURE SETTING MAY VIOLATE STATE LAWS. SEE SERVICE MANUAL FOR ADDITIONAL INFORMATION

ENGINE	IGNITION DWELL	IGNITION TIMING	PLUG GAP	MODEL	TRANS	MIXTURE BY PASS SCREW IDLE RPM	FAST IDLE RPM
L4 1892	48°-52°	10°BTDC	1 mm	ALL	MAN	800-850	2200
		10°BTDC		L SEDAN	AUTO	800-850 (P OR N)	2700
		6°BTDC		ALL EXCEPT L SEDAN	AUTO	800-850 (P OR N)	2700

92014786 **EV**

1.9 Litre Engine



VEHICLE EMISSION CONTROL INFORMATION

MAKE IDLE SPEED AND TIMING ADJUSTMENTS WITH ENGINE AT NORMAL OPERATING TEMPERATURE, CHOKE OPEN, AIR CONDITIONING OFF, AIR CLEANER INSTALLED AND DISTRIBUTOR VACUUM LINE DISCONNECTED AND PLUGGED. RECONNECT DISTRIBUTOR VACUUM LINE WHEN ADJUSTMENTS ARE COMPLETED.

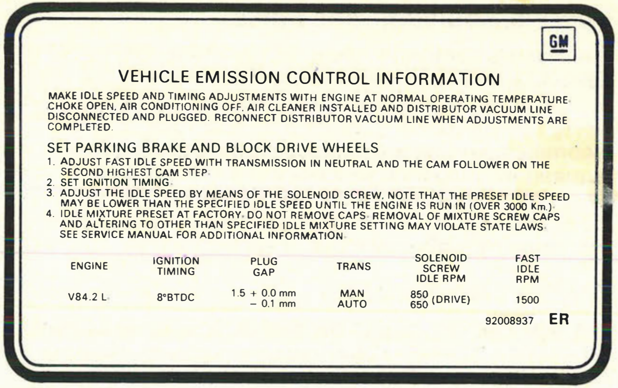
SET PARKING BRAKE AND BLOCK DRIVE WHEELS

1. SET TIMING TO SPECIFIED VALUE AT IDLE SPEED BELOW 900 RPM.
2. ADJUST IDLE SPEED, AT MIXTURE BYPASS SCREW TO SPECIFIED RPM. (TRANSMISSION IN NEUTRAL, AIR CONDITIONING SWITCHED OFF)
3. WITH THE FAST IDLE SCREW ON HIGHEST STEP, ADJUST TO SPECIFIED FAST IDLE SPEED BY TURNING THE FAST IDLE SCREW.
4. FOR AIR CONDITIONING ONLY: AFTER COMPLETION OF STEPS 2 AND 3 SWITCH A/C ON AND ADJUST TO SPECIFIED IDLE SPEED AT THROTTLE POSITIONING SOLENOID SCREW.
5. IDLE MIXTURE IS FACTORY PRESET, DO NOT TOUCH BASIC IDLE STOP SCREW AND IDLE MIXTURE SCREW. ALTERING TO OTHER THAN SPECIFIED IDLE MIXTURE SETTING MAY VIOLATE STATE LAWS. SEE SERVICE MANUAL FOR ADDITIONAL INFORMATION.

ENGINE	PLUG GAP	IGNITION TIMING	IDLE RPM	FAST IDLE RPM
L6 2B50 HC	1.5 + 0.0 mm − 0.1 mm	6°BTDC	925	2500

92008933 **EN**

2.8 Litre Engine (High Compression)



VEHICLE EMISSION CONTROL INFORMATION

MAKE IDLE SPEED AND TIMING ADJUSTMENTS WITH ENGINE AT NORMAL OPERATING TEMPERATURE. CHOKE OPEN, AIR CONDITIONING OFF, AIR CLEANER INSTALLED AND DISTRIBUTOR VACUUM LINE DISCONNECTED AND PLUGGED. RECONNECT DISTRIBUTOR VACUUM LINE WHEN ADJUSTMENTS ARE COMPLETED.

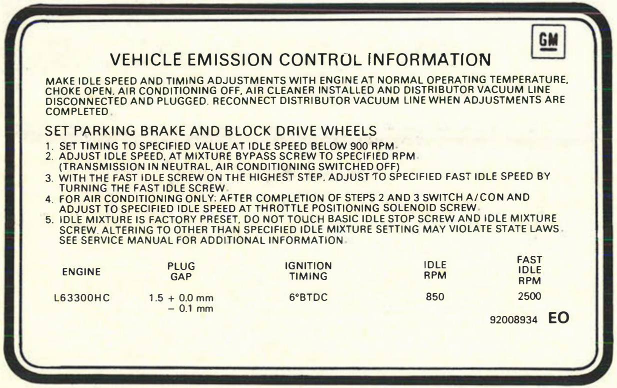
SET PARKING BRAKE AND BLOCK DRIVE WHEELS

1. ADJUST FAST IDLE SPEED WITH TRANSMISSION IN NEUTRAL AND THE CAM FOLLOWER ON THE SECOND HIGHEST CAM STEP.
2. SET IGNITION TIMING.
3. ADJUST THE IDLE SPEED BY MEANS OF THE SOLENOID SCREW. NOTE THAT THE PRESET IDLE SPEED MAY BE LOWER THAN THE SPECIFIED IDLE SPEED UNTIL THE ENGINE IS RUN IN (OVER 3000 Km.)
4. IDLE MIXTURE PRESET AT FACTORY. DO NOT REMOVE CAPS. REMOVAL OF MIXTURE SCREW CAPS AND ALTERING TO OTHER THAN SPECIFIED IDLE MIXTURE SETTING MAY VIOLATE STATE LAWS. SEE SERVICE MANUAL FOR ADDITIONAL INFORMATION.

ENGINE	IGNITION TIMING	PLUG GAP	TRANS	SOLENOID SCREW IDLE RPM	FAST IDLE RPM
V84.2 L	8°BTDC	1.5 + 0.0 mm − 0.1 mm	MAN AUTO	850 650 (DRIVE)	1500

92008937 **ER**

4.2 Litre V8 Engine



VEHICLE EMISSION CONTROL INFORMATION

MAKE IDLE SPEED AND TIMING ADJUSTMENTS WITH ENGINE AT NORMAL OPERATING TEMPERATURE, CHOKE OPEN, AIR CONDITIONING OFF, AIR CLEANER INSTALLED AND DISTRIBUTOR VACUUM LINE DISCONNECTED AND PLUGGED. RECONNECT DISTRIBUTOR VACUUM LINE WHEN ADJUSTMENTS ARE COMPLETED.

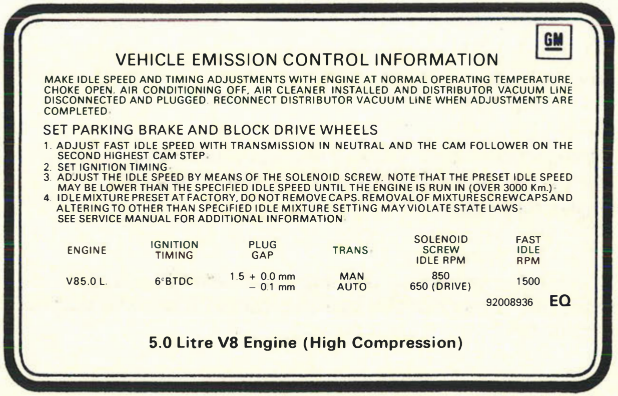
SET PARKING BRAKE AND BLOCK DRIVE WHEELS

1. SET TIMING TO SPECIFIED VALUE AT IDLE SPEED BELOW 900 RPM.
2. ADJUST IDLE SPEED, AT MIXTURE BYPASS SCREW TO SPECIFIED RPM. (TRANSMISSION IN NEUTRAL, AIR CONDITIONING SWITCHED OFF)
3. WITH THE FAST IDLE SCREW ON THE HIGHEST STEP, ADJUST TO SPECIFIED FAST IDLE SPEED BY TURNING THE FAST IDLE SCREW.
4. FOR AIR CONDITIONING ONLY: AFTER COMPLETION OF STEPS 2 AND 3 SWITCH A/CON AND ADJUST TO SPECIFIED IDLE SPEED AT THROTTLE POSITIONING SOLENOID SCREW.
5. IDLE MIXTURE IS FACTORY PRESET, DO NOT TOUCH BASIC IDLE STOP SCREW AND IDLE MIXTURE SCREW. ALTERING TO OTHER THAN SPECIFIED IDLE MIXTURE SETTING MAY VIOLATE STATE LAWS. SEE SERVICE MANUAL FOR ADDITIONAL INFORMATION.

ENGINE	PLUG GAP	IGNITION TIMING	IDLE RPM	FAST IDLE RPM
L63300HC	1.5 + 0.0 mm − 0.1 mm	6°BTDC	850	2500

92008934 **EO**

3.3 Litre Engine (High Compression)



VEHICLE EMISSION CONTROL INFORMATION

MAKE IDLE SPEED AND TIMING ADJUSTMENTS WITH ENGINE AT NORMAL OPERATING TEMPERATURE, CHOKE OPEN. AIR CONDITIONING OFF. AIR CLEANER INSTALLED AND DISTRIBUTOR VACUUM LINE DISCONNECTED AND PLUGGED. RECONNECT DISTRIBUTOR VACUUM LINE WHEN ADJUSTMENTS ARE COMPLETED.

SET PARKING BRAKE AND BLOCK DRIVE WHEELS

1. ADJUST FAST IDLE SPEED WITH TRANSMISSION IN NEUTRAL AND THE CAM FOLLOWER ON THE SECOND HIGHEST CAM STEP.
2. SET IGNITION TIMING.
3. ADJUST THE IDLE SPEED BY MEANS OF THE SOLENOID SCREW. NOTE THAT THE PRESET IDLE SPEED MAY BE LOWER THAN THE SPECIFIED IDLE SPEED UNTIL THE ENGINE IS RUN IN (OVER 3000 Km.)
4. IDLE MIXTURE PRESET AT FACTORY, DO NOT REMOVE CAPS. REMOVAL OF MIXTURE SCREW CAPS AND ALTERING TO OTHER THAN SPECIFIED IDLE MIXTURE SETTING MAY VIOLATE STATE LAWS. SEE SERVICE MANUAL FOR ADDITIONAL INFORMATION.

ENGINE	IGNITION TIMING	PLUG GAP	TRANS	SOLENOID SCREW IDLE RPM	FAST IDLE RPM
V85.0 L	6°BTDC	1.5 + 0.0 mm − 0.1 mm	MAN AUTO	850 650 (DRIVE)	1500

92008936 **EQ**

5.0 Litre V8 Engine (High Compression)

5.0 Litre V8 Engine

Section 4: Owner Relations and Authorised GMH Dealers

We want you to be happy with your new Commodore and with the people you deal with while you have the vehicle.

Normally, any problems which may arise with the sales transaction, operation or servicing of your vehicle will be handled by your Dealer's Sales and Service department.

We realise however that, with the best intentions, misunderstandings do occur sometimes.

If you have a problem that has not been settled to your satisfaction here's what to do:

Step 1:

Discuss the problem with one of the Dealer's management people. If you feel you haven't got satisfaction from the Sales Manager or Service Manager — go to the General Manager or the Dealer himself.

Step 2:

If it seems that no-one at the dealership can help fully, write to the Zone Owner Relations Manager in your State outlining your problem and including your name, address and telephone number; the vehicle model number and vehicle identification number; the vehicle delivery date and odometer reading and the Dealer's name and address. This information will be on your Warranty Certificate.

Step 3:

By now you should have satisfaction. If not, you can write to the National Owner Relations Manager, GMH Sales Pty Ltd, P.O. Box 5431CC, Melbourne 3001.

Always try to sort things out at the Dealership. Owner Relations managers will have to refer the problem back to the Dealer.

Owner Relations Managers

QUEENSLAND
General Motors-Holden's Sales Pty. Ltd.,
Box 728, G.P.O.,
BRISBANE, QLD. 4001.

NEW SOUTH WALES AND AUSTRALIAN CAPITAL TERRITORY
General Motors-Holden's Sales Pty. Ltd.,
Box 4239, G.P.O.,
SYDNEY, N.S.W. 2001.

VICTORIA AND TASMANIA
General Motors-Holden's Sales Pty. Ltd.,
Box 1273 L, G.P.O.,
MELBOURNE, VIC. 3001.

SOUTH AUSTRALIA AND NORTHERN TERRITORY
General Motors-Holden's Sales Pty. Ltd.,
Box 221, P.O.,
ELIZABETH, S.A. 5112.

WESTERN AUSTRALIA
General Motors-Holden's Sales Pty. Ltd.,
P.O. Box 426,
WEST PERTH, W.A. 6005.

Authorised GMH Dealers

Effective 20/9/80

NEW SOUTH WALES — Metropolitan Dealers

ARNCLIFFE
Suttons Motors (Arncliffe) Pty. Ltd.,
93 Princes Highway

ASHFIELD
Muirs Motors (Ashfield) Pty. Ltd.,
252 Parramatta Road

BALGOWLAH
Ross Hannon Motors
164 Condamine Street

BANKSTOWN
Boyded Bankstown
236-242 South Terrace

BAULKHAM HILLS
Tony Packard Motors
Cnr. Victoria Avenue & Windsor Road

BLACKTOWN
Mitchell & Townsend,
125 Main Street

CABRAMATTA
Ron Hodgson (Cabramatta) Pty. Ltd.,
266 Hume Highway

CAMPBELLTOWN
Clintons Motors Pty. Ltd.,
3-17 Queen Street

CHATSWOOD
Sundell Holden
815-843 Pacific Highway

CHULLORA
Suttons Motors (Chullora) Pty. Ltd.,
Cnr. Hume Highway & Waterloo Road

CROW'S NEST
J. N. Caldwell (Holdings) Pty. Ltd.,
1 Alexander Street

DEE WHY
Graham Patching Motors Pty. Ltd.
Cnr. May and Mooramba Roads

GUILDFORD
Suttons Motors
662 Woodville Road

HOMEBUSH
Gilbert & Roach Pty. Ltd.,
187 Parramatta Road

HOMEBUSH
Suttons Motors (Homebush) Pty. Ltd.,
112 Parramatta Road

KINGSFORD
John Pelligrini Motors Pty. Ltd.,
263-271 Anzac Parade

KINGSWOOD
Chapman Motors
107-119 Gt. Western Highway

LAKEMBA
R. B. Nash Pty. Ltd.,
1018 Canterbury Road

LIVERPOOL
A. C. McGrath & Company,
Cnr. Castlereagh St. & Hume Highway

LIVERPOOL
Pat Cullen's Garage,
324-360 Hume Highway

MIRANDA
W. H. Lober & Co. Pty. Ltd.,
1-3 Kiora Road

MOSMAN
Norman G. Booth Pty. Ltd.,
501 Military Road

NEWPORT BEACH
Sundell Motors
Barrenjoey Road

PADSTOW
P. W. Bagnall Pty. Ltd.,
19 Davies Road

PARRAMATTA
Fair Deal Car Sales Pty. Ltd.,
65 Church Street

PARRAMATTA
Hillsdon's Pty. Ltd.,
87 Church Street

PENNANT HILLS
L. W. Vagg & Co. Pty. Ltd.,
351-355 Pennant Hills Road

RANDWICK
Boyded (Randwick),
265 Avoca Street

ROCKDALE
C. V. Holland Pty. Ltd.,
571 Princes Highway

ROSE BAY
Vern Potts,
505-509 Old South Head Road

RYDE
Muirs Motors (Ryde) Pty. Ltd.,
603-605 Victoria Road

ST. MARY'S
Lance Motors Pty. Ltd.,
Cnr. Glossop & Harris Streets

WAITARA
John A. Gilbert Pty. Ltd.,
90 Pacific Highway

WINDSOR
Hawkesbury Valley Motors,
122 George Street.

NEW SOUTH WALES —

Country Dealers & Service Dealers

- ADELONG
- ALBURY
- ARDLETHAN
- ARMIDALE
- BALLINA
- BARADINE
- BARELLAN
- BARHAM
- BARRABA
- BATHURST
- BEGA
- BELLINGEN
- BELMONT
- BLAYNEY
- BOGGABRI
- BOMBALA
- BOURKE
- BOWRAL
- BREWARRINA
- BROKEN HILL
- BULAHDELAH
- CANOWINDRA
- CASINO
- CESSNOCK

- COBAR
- COFF'S HARBOUR
- CONDOBOLIN
- COOLAMON
- COOMA
- COONABARABRAN
- COONAMBLE
- COOTAMUNDRA
- COROWA
- COWRA
- CROOKWELL
- CULCAIRN
- DENILIQUIN
- DORRIGO
- DUBBO
- DUNGOG
- EDEN
- FINLEY
- FORBES
- GILGANDRA
- GLEN INNES
- GLOUCESTER
- GOSFORD
- GOULBURN
- GRAFTON
- GRENFELL
- GRIFFITH
- GULARGAMBONE
- GUNDAGAI
- GUNNEDAH
- GUNNING
- GUYRA
- HARDEN
- HAY
- HOLBROOK
- INVERELL
- JERILDERIE
- JUNEE
- KANDOS
- KATOOMBA
- KEMPSEY
- KIAMA
- KURRI KURRI
- KYOGLE
- LAKE CARGELLIGO
- LEETON
- LISMORE
- LITHGOW
- MACKSVILLE
- MAITLAND
- MILTON
- MOLONG
- MOREE
- MORUYA
- MOSS VALE
- MUDGEE
- MULLUMBIMBY
- MUNGINDI
- MURWILLUMBAH
- MUSWELLBROOK
- NARRABRI
- NARRANDERA
- NARROMINE
- NEWCASTLE
- NOWRA
- NYNGAN
- ORANGE
- PEAK HILL
- PICTON
- PORT MACQUARIE
- QUIRINDI
- SINGLETON
- SPRINGWOOD
- TAMWORTH
- TAREE
- TEMORA
- TENTERFIELD
- TORONTO
- TOTTENHAM
- TRANGIE
- TULLAMORE
- TUMBARUMBA
- TUMUT
- TWEED HEADS
- WAGGA
- WALCHA
- WALLA WALLA
- WALGETT
- WARIALDA
- WARILLA
- WARREN
- WAUCHOPE
- WELLINGTON
- WEST WYALONG
- WINGHAM
- WOLLONGONG
- WOODENBONG
- WYONG
- YASS
- YOUNG

VICTORIA—Metropolitan Dealers

BENTLEIGH
Boyanton Motors (Bentleigh) P/L.,
280 Centre Road

BERWICK
Noel Gould Berwick Pty. Ltd.,
Princes Highway

BALWYN
Southern Motors (Box Hill) Pty. Ltd.,
126 Whitehorse Road

BRAYBROOK
Kevin Dennis Motors (Sunshine) Pty. Ltd.,
272 Ballarat Road

BUNDOORA
Watsons of Greensborough
413 Grimshaw Street

BURWOOD
Dustings Pty. Ltd.,
1200 Toorak Road

CAULFIELD
Booran Motors Pty. Ltd.,
1049 Glenhuntly Road

CHELSEA
Ron Morphy Motors
370 Nepean Highway

CHELTENHAM
Balmoral Motors Pty. Ltd.,
1190 Nepean Highway

DANDENONG
Bill Patterson-Cheney Dandenong Pty. Ltd.,
200 Cheltenham Rd.

DANDENONG
Preston Motors (Dandenong) Pty. Ltd.,
Princes Highway

DONCASTER
Lance Dixon World of Cars
601 Doncaster Road

ELSTERNWICK
Reg. Hunt Motors Pty. Ltd.,
77 Nepean Highway

ESSENDON
Preston Motors (Essendon) Pty. Ltd.,
207-211 Keilor Road

FAWKNER
M. S. & G. Mantello Pty. Ltd.,
1263 Sydney Road

FERNTREE GULLY
Neil Neilson Pty. Ltd.,
980 Burwood Road

FOOTSCRAY WEST
Alan Mance Motors Pty. Ltd.,
435 Barkly Street

FOOTSCRAY
Bill Patterson Cheney Ltd.,
130 Moreland Street

FRANKSTON
Bayside Motors (Vic.) P/L.,
140 Dandenong Road

GLEN WAVERLEY
Geoff Brady Motors Pty. Ltd.,
565-577 Springvale Road

HASTINGS
Dustings of Hastings
762 Hastings Road

HEIDELBERG WEST
Northpoint Holden
66 Bell Street

LILYDALE
Noel Dight Holden
Main Street

MORNINGTON
Peninsula Holden
Cnr Nepean Highway & Tyabb Road

OAKLEIGH
Garry & Warren Smith Pty. Ltd.,
1575 Dandenong Road

PRESTON
Graham Hunt Motors Pty. Ltd.,
518 High Street

RINGWOOD
Bill Patterson—Ringwood Holden
45-57 Maroondah Highway

SOUTH MELBOURNE
John Martin Motors Pty. Ltd.,
132 Sturt Street

WERRIBEE
Ballan Holden
Princes Highway

WEST MELBOURNE
Reg Hunt Motors Pty. Ltd.,
577 King Street

YARRAVILLE
W. H. & S. Massey Pty. Ltd.,
708 Geelong Road

VICTORIA — Country Dealers & Service Dealers

- ALEXANDRA
- ARARAT
- BACCHUS MARSH
- BAIRNSDALE
- BALLARAT
- BENALLA
- BENDIGO
- BIRCHIP
- BOORT
- CAMPERDOWN
- CASTERTON
- CASTLEMAINE
- CHARLTON
- COBRAM
- COHUNA
- COLAC
- COLERAINE
- CORRYONG
- DAYLESFORD
- DERRINALLUM
- DIMBOOLA
- DONALD
- DROUIN
- ECHUCA
- EUROA
- FOSTER
- GEELONG
- HAMILTON
- HEALESVILLE
- HEATHCOTE
- HOPETOUN
- HORSHAM
- JEPARIT
- KANIVA
- KERANG
- KOOWEERUP
- KORUMBURRA
- KYABRAM
- KYNETON
- LANG LANG
- LEONGATHA
- MAFFRA
- MANSFIELD
- MARYBOROUGH
- MILDURA
- MINYIP
- MOE
- MORTLAKE
- MORWELL
- MYRTLEFORD
- NAGAMBIE
- NHILL
- NULLAWIL
- NYAH
- ORBOST
- OUYEN
- PORTLAND
- QUAMBATOOK
- RAINBOW
- ROCHESTER
- RUTHERGLEN
- SALE
- SEA LAKE
- SEYMOUR
- SHEPPARTON
- ST. ARNAUD
- STAWELL
- SWAN HILL
- TALLANGATTA
- TIMBOON
- TRARALGON
- UNDERBOOL
- WANGARATTA
- WARBURTON
- WARRACKNABEAL
- WARRNAMBOOL
- WODONGA
- WONTHAGGI
- WYCHEPROOF
- YARRAM
- YARRAWONGA

AUSTRALIAN CAPITAL TERRITORY

- CANBERRA (Suburban Locations)
- BELCONNEN
- BRADDON
- FYSHWICK
- PHILLIP

QUEENSLAND — Metropolitan Dealers

ASPLEY
Zupps (Aspley) Pty. Ltd.,
1442 Gympie Road

BEENLEIGH
Midways (Beenleigh) Pty. Ltd.,
George Street

CLEVELAND
Russell Smith Holden
Queen Street

IPSWICH
Irving Motors Pty. Ltd.,
154 Brisbane Street

MOOROOKA
John Sivyer Pty. Ltd.,
1606 Ipswich Road

MT. GRAVATT
Zupps Motors Pty. Ltd.,
1310 Logan Road

NUNDAH
Eagers (Northside)
Cnr. Sandgate Rd. & Wood St.

OXLEY
Wayne Hill Holden,
2193 Ipswich Road

NEWSTEAD
Eagers Retail Pty. Ltd.,
95 Breakfast Creek Road

PETRIE
North Pine Motors Pty. Ltd.,
Bruce Highway

REDCLIFFE
John Lingham Motors,
425 Elizabeth Avenue

SPRINGWOOD
Midways Springwood Pty. Ltd.,
Pacific Highway

TARINGA
Newman Motors Pty. Ltd.
135 Moggil Road

WINDSOR
Leach Motors (Northside) Pty. Ltd.,
Newmarket Road

WYNNUM
G. & B. Motors,
200 Tingal Road

WOOLLOONGABBA
Eagers Southside
Cnr Logan Rd. & Trafalgar St.

QUEENSLAND — Country Dealers & Service Dealers

- ALLORA
- ATHERTON
- AUGATHELLA
- AYR
- BEERWAH
- BILOELA
- BOWEN
- BUNDABERG
- CABOOLTURE
- CAIRNS
- CALOUNDRA
- CHARLEVILLE
- CHARTERS TOWERS
- CHINCHILLA
- CLERMONT
- CLEVELAND
- CLONCURRY
- COOLANGATTA
- CUNNAMULLA
- DALBY
- DIRRANBANDI
- EMERALD
- GATTON
- GAYNDAH
- GLADSTONE
- GOONDIWINDI
- GYMPIE
- HUGHENDEN
- INGHAM
- INNISFAIL
- JANDOWAE
- JULIA CREEK
- KILCOY
- KINGAROY
- LAIDLEY
- LONGREACH
- MACKAY
- MAREEBA
- MARYBOROUGH
- MILES
- MITCHELL
- MONTO
- MOURA
- MT. ISA
- MURGON
- NAMBOUR
- NANANGO
- NOOSA HEADS
- PROSERPINE

- QUILPIE
- ROCKHAMPTON
- ROMA
- SOUTHPORT
- SPRINGSURE
- STANTHORPE
- ST. GEORGE
- TARA
- TEXAS
- TOOWOOMBA
- TOWNSVILLE
- TULLY
- WARWICK
- WINTON
- YULEBA

SOUTH AUSTRALIA — Metropolitan Dealers

ADELAIDE
City Holden,
215 Grenfell Street

ADELAIDE
Freeman Motors Ltd.,
72 Franklin Street

ELIZABETH
Peter Page Pty. Ltd.,
Elizabeth Way

GLENELG
John H. Ellers Pty. Ltd.,
282 Brighton Road

MALVERN
Claridge Motors Pty. Ltd.,
361-367 Unley Road

MODBURY
North East Plaza Pty. Ltd.,
817-839 North East Road

PORT ADELAIDE
Smith Motor Co. Pty. Ltd.,
171 Commercial Road

SOUTH AUSTRALIA — Country Dealers & Service Dealers

- ARDROSSAN
- BALAKLAVA
- BERRI
- BORDERTOWN
- BRINKWORTH
- BURRA
- CLARE
- CLEVE
- CRYSTAL BROOK
- CUMMINS
- GLADSTONE
- JAMESTOWN
- KADINA
- KEITH
- KIMBA
- KINGSCOTE
- KINGSTON
- LAMEROO
- LOXTON
- MAITLAND
- MANNUM
- MANOORA
- MENINGIE
- MINLATON
- MILLICENT
- MT. BARKER
- MT. GAMBIER
- MURRAY BRIDGE
- MURRAYVILLE
- NARACOORTE
- ORROROO
- PETERBOROUGH
- PORT AUGUSTA
- PORT LINCOLN
- PORT PIRIE
- QUORN
- RENMARK
- SEDAN
- STRATHALBYN
- STREAKY BAY
- TANUNDA
- VICTOR HARBOR
- WAIKERIE
- WHYALLA
- WUDINNA
- YANKALILLA

WESTERN AUSTRALIA — Metropolitan Dealers

BELMONT
Major Motors Pty. Ltd.,
225 Great Eastern Highway

CANNINGTON
Brian Gardner Motors Pty. Ltd.,
1308 Albany Highway

FREMANTLE
Shack & Kerr Motors Pty. Ltd.,
59 Queen Victoria Street

GOSNELLS
Lance Gibbons Motors Pty. Ltd.,
2325 Albany Highway

MELVILLE
Melville Motors Pty. Ltd.,
532-536 Canning Highway

MIDLAND
John Goldie
37 Great Northern Highway

MORLEY
Metro Motors Pty. Ltd.,
212 Walter Road

NAVAL BASE
Shack Motors Cockburn Pty. Ltd.,
Rockingham Road

OSBORNE PARK
North City Pty. Ltd.,
Cnr. Scarborough Beach Rd.
& Harbourne Street

PERTH
City Motors Pty. Ltd.,
505 Newcastle Street

PERTH
Sydney Atkinson Motors Ltd.,
20 Terrace Drive

VICTORIA PARK
Young's W.A. (1975) Pty. Ltd.,
529 Albany Highway

WANNEROO
Phoenix Motors Pty. Ltd.,
316 Berriman Drive

WESTERN AUSTRALIA— Country Dealers & Service Dealers

- ALBANY
- BEVERLEY
- BODDINGTON
- BOYUP BROOK
- BROOKTON
- BROOME
- BRUCE ROCK
- BUNBURY
- BUSSELTON
- CARNAMAH
- CARNARVON
- COLLIE
- CORRIGIN
- CRANBROOK
- DALWALLINU
- DERBY
- ESPERANCE
- GERALDTON
- GNOWANGERUP
- GOOMALLING
- HARVEY
- KALGOORLIE
- KARRATHA
- KATANNING
- KELLERBERRIN
- KULIN
- KUNUNURRA
- MANDURAH
- MANJIMUP
- MERREDIN
- MOORA
- MORAWA
- MT. BARKER
- MULLEWA
- NAREMBEEN
- NARROGIN
- NORTHAM
- PINGELLY
- PORT HEDLAND
- QUAIRADING
- WAGIN
- WONGAN HILLS
- WYALKATCHEM

TASMANIA — Metropolitan & Country Dealers & Service Dealers

HOBART
Motors Pty. Ltd.,
179 Macquarie Street

BURNIE
Motors Pty. Ltd.,
54 Marine Terrace

DEVONPORT
Motors Pty. Ltd.,
24 Best Street

HUONVILLE
Motors Pty. Ltd.,
Main Street

KING ISLAND
King Island Motors,
Currie

LAUNCESTON
Motors Pty. Ltd.,
165 Brisbane Street

LAUNCESTON
Nettlefold Car & Truck Pty. Ltd.,
71 Bathurst Street

SMITHTON
Smithton Motors Pty. Ltd.,
16 Nelson Street

ULVERSTONE
Motors Pty. Ltd.,
99 Reibey Street

NORTHERN TERRITORY — Dealers

ALICE SPRINGS
Kittle Bros. (Alice Springs) Pty. Ltd.,
Wills Terrace

DARWIN
Suttons Motors (Darwin) Pty. Ltd.,
Cnr. Mitchell and Knuckey Streets

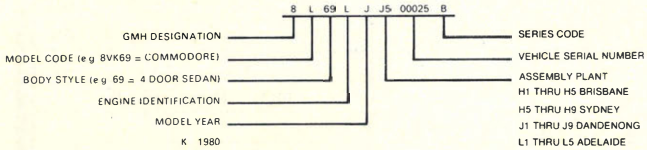
KATHERINE
Katherine Motors Pty. Ltd.,
Katherine Street

Section 5: Specifications

Serial Numbers

V.I.N. Plate

(Vehicle Identification Number)
Attached to the top centre of the radiator support panel under the engine hood.

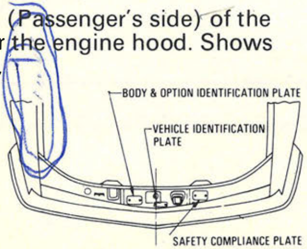

8 L 69 L J J5 00025 B
GMH DESIGNATION
MODEL CODE (e g 8VK69 = COMMODORE)
BODY STYLE (e g 69 = 4 DOOR SEDAN)
ENGINE IDENTIFICATION
MODEL YEAR
K 1980
SERIES CODE
VEHICLE SERIAL NUMBER
ASSEMBLY PLANT
H1 THRU H5 BRISBANE
H5 THRU H9 SYDNEY
J1 THRU J9 DANDENONG
L1 THRU L5 ADELAIDE

Body Serial Number Plate

Attached to the top right side (driver's side) of the radiator support panel under the engine hood. Plate shows body styles, body serial number, paint and trim colour combination, paint number, Engine, Transmission and Axle Ratio Options.

Safety Compliance Plate

Attached to the top left side (Passenger's side) of the radiator support panel under the engine hood. Shows vehicle Series, Model, Style, Month and Year of production, Vehicle Serial Number, approved seating capacity, and the Australian Design Rules to which the vehicle complies. (Refer illustration.)


BODY & OPTION IDENTIFICATION PLATE
VEHICLE IDENTIFICATION PLATE
SAFETY COMPLIANCE PLATE

Vehicle Serial Number

(Chassis Number)
Stamped on the upper front panel, right hand side—access under the engine hood.

Engine Number Prefixes

Six Cylinder

VD — 2.85 litre
VL — 3.3 litre

Stamped on a pad above the engine mounting on the right hand side (Driver's side) of the engine.

Eight Cylinder

VR — 4.2 litre

Stamped on a pad on the left hand side (Passenger's side) at the front of the cylinder block above the engine mounting.

Model Identification

Model Range	Model Group	Style* Number	V.I.N. Code Number
Commodore	8VK	69	8K69
Commodore Wagon	8VK	35	8K35
Commodore SL	8VL	69	8L69
Commodore SL Wagon	8VL	35	8L35
Commodore SL/E	8VX	69	8X69

**Note:* Model group and style numbers may have 3 numbers following. These refer to option packs.

Vehicle Dimensions (in millimetres)

ITEM			6 & 8 CYLINDER					4 CYLINDER			
			SEDAN			S/WAGON		SEDAN		S/WAGON	
			L	SL	SL/E	L	SL	L	SL	L	SL
LENGTH			4706	4706	4730	4732	4732	4706	4706	4732	4732
WIDTH			1722	1722	1736	1722	1722	1722	1722	1722	1722
HEIGHT			1379	1375	1368	1407	1457	1363	1359	1391	1440
WHEELBASE			2668	2668	2668	2668	2668	2668	2668	2668	2668
TRACK STEEL 13″ WHEELS	FRONT		NOT APPLICABLE					1480	1480	1480	1480
	REAR		″ ″					1445	1445	1469	1469
	REAR DISC BRAKES		″ ″					NOT APPLICABLE			
TRACK STEEL 14″ WHEELS	FRONT		1451	1451	1451	1451	1451	″ ″			
	REAR		1416	1416	N/A	1440	1440	″ ″			
	REAR DISC BRAKES		1424	1424	1424	1447	1447	″ ″			
TRACK ALLOY 15″ WHEELS	FRONT		1449	1449	1449	N/A	N/A	″ ″			
	REAR		1414	1414	N/A	N/A	N/A	″ ″			
	REAR DISC BRAKES		1422	1422	1422	N/A	N/A	″ ″			
TURNING CIRCLE	CURB to CURB (Metres)	MANUAL	10.2	10.2	N/A	10.2	10.2	10.2	10.2	10.2	10.2
		POWER	10.8	10.8	10.8	10.8	10.8	10.8	10.8	10.8	10.8
	WALL to WALL (Metres)	MANUAL	11.0	11.0	N/A	11.0	11.0	11.0	11.0	11.0	11.0
		POWER	11.4	11.4	11.4	11.4	11.4	11.4	11.4	11.4	11.4
MINIMUM RUNNING GROUND CLEARANCE			143	143	136	140	140	128	127	124	123

N/A = Not Applicable

Wheel Nut Torques

Recommended Wheel Nut Torque is 100-108 Nm. (75-80 ft. lbs.)

ENGINE DATA

ENGINE Designation *	1.9 Litre	2.85 Litre	3.3 Litre	4.2 Litre	5.0 Litre
Piston Disp. Nom.—Cu. Cms.	1.892	2838	3298	4142	5.004
Comp. Ratio : 1 (Mean)	8.7	9.0	8.8	9.0	9.2
Petrol Research Octane Rating	97	97	97	97	97
Bore/Stroke mm	88.9 x 76.2	88.9 x 76.2	92.075 x 82.550	92.075 x 77.775	110.6 x 77.8
Taxable H.P. RAC or SAE	19.6	29.4	31.5	42.0	51.2
Kilowatts Din @ R.P.M.	58 @ 4600	76 @ 4400	83 @ 4000	Manual & Auto 100 @ 4200^{S}	Manual & Auto 126 @ 4400^{S}
				Manual & Auto 115 @ 4400^{D}	Manual & Auto 115 @ 4200^{D}
Torque NM Din @ R.P.M.	140 @ 2400	192 @ 2800	231 @ 2400	Manual & Auto 269 @ 2000^{S}	Manual & Auto 361 @ 2800^{S}
				Manual & Auto 289 @ 3200^{D}	Manual & Auto 289 @ 3200^{D}
Cylinder Numbering (Front to Rear)	1234	1 2 3 4 5 6	1 2 3 4 5 6	RH Bank 1 3 5 7 LH Bank 2 4 6 8	RH Bank 1 3 5 7 LH Bank 2 4 6 8
Firing Order	1 3 4 2	1 5 3 6 2 4	1 5 3 6 2 4	1 2 7 8 4 5 6 3	1 2 7 8 4 5 6 3

^{S}= Single Exhaust ^{D}= Dual Exhaust

CAPACITIES

Engine Oil

			Litres
4 Cylinder—	Service Refill	(b)	3.2
	Add for Filter	(b)	0.8
6 Cylinder—	Service Refill	(b)	3.4
	Add for Filter	(b)	0.9
8 Cylinder—	Service Refill	(b)	4.0
	Add for Filter	(b)	0.9

Manual Transmission

4-Speed All Synchromesh	1.7

Automatic Transmission

Trimatic

Service Refill	—Approximate	(b)	2.3
Dry	—6 Cyl.	(a) (b)	6.1
	—8 Cyl.	(a) (b)	8.7

Turbo Hydramatic

Service Refill—	Approximate	(b)	3.7
Dry		(a) (b)	10.4

Rear Axle

All Models	(a)	1.4

(a)—Only at Overhaul
(b)—Use oil level for final check

Cooling System

		Litres
4 Cylinder—	Approx.	
6 Cylinder—	Approx.	8.5
8 Cylinder—4.2 litre	Approx.	12.0

Pressure Rating of Radiator Cap .. .. 103 kPa

Fuel Tank

Sedan	63 litres
Wagon	68 litres

CLEARANCES AND SETTINGS

Engine Type	**4 Cyl.**	**6 Cyl.**	**8 Cyl.**
Distributor	0.46 mm (.018 in.)	—Brakeless —Non Adjustable	
Valve Clearance —Inlet (Hot) —Exhaust (Hot)	 Zero Zero	 Zero (Non Adjustable) Zero (Non Adjustable)	
Spark Plug Gap	0.95–1.5 mm	1.5 mm	

Carburettor Mixture

The mixture control of the carburettor has been sealed and the idling speed set to comply with the Austrlaian Design Rules. The reason for this is to conform to anti-pollution measures. **Your GMH Dealer has the full information concerning the foregoing.**

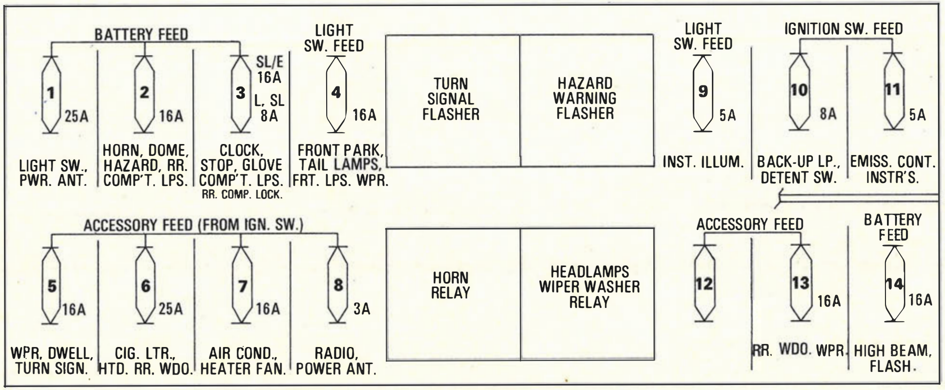
FUSE SYSTEM

Fuses

The fuse block is located behind a flush fitting plastic cover at the lower right hand corner of the instrument panel, adjacent to the hood release. To gain access to the fuses remove the cover by using the recess provided. The fuses can be identified by referring to the fuse layout on the reverse side of the cover.
If after replacing a burnt-out fuse, the new fuse burns out, this indicates that the fuse is still overloaded. The cause of the fault should be located and rectified, preferably by a GMH Dealer.

Fusible Link

In order to reduce the possibility of a fire, whether due to electrical causes or an accident, the wiring harness is protected by the inclusion of a fusible link, located in the harness next to the starter motor. In case of a short circuit, the link will melt internally, disconnecting the battery by the fusing action. The encasing insulation has been specially designed to withstand the temperature and to contain the fused wires. Thus the fusible link provides a combined fuse and fire protection feature.


BATTERY FEED
1 25A
LIGHT SW., PWR. ANT.
2 16A
HORN, DOME, HAZARD, RR. COMP'T. LPS.
3 SL/E 16A L, SL 8A
CLOCK, STOP, GLOVE COMP'T. LPS. RR. COMP. LOCK.
LIGHT SW. FEED
4 16A
FRONT PARK, TAIL LAMPS, FRT. LPS. WPR.
TURN SIGNAL FLASHER
HAZARD WARNING FLASHER
LIGHT SW. FEED
9 5A
INST. ILLUM.
IGNITION SW. FEED
10 8A
BACK-UP LP., DETENT SW.
11 5A
EMISS. CONT. INSTR'S.
ACCESSORY FEED (FROM IGN. SW.)
5 16A
WPR. DWELL, TURN SIGN.
6 25A
CIG. LTR., HTD. RR. WDO.
7 16A
AIR COND., HEATER FAN.
8 3A
RADIO, POWER ANT.
HORN RELAY
HEADLAMPS WIPER WASHER RELAY
ACCESSORY FEED
12
13 16A
RR. WDO. WPR.
BATTERY FEED
14 16A
HIGH BEAM, FLASH.

HEADLAMP AND BULB SPECIFICATIONS

Bulbs	**GMH Part Number**	**Power Rating**
Headlamps	11071361	55/60 watt
Parking (Front)	11051209	4 watt
Turn Signal	11062779	21 watt
Back-up Lamp	11062779	21 watt
Stop and Tail	11062789	25/6 watt
Engine Compartment Lamp	11030669	10 watt
Rear Compartment Lamp	11030669	10 watt
Number Plate Lamp	11047259	10 watt
Automatic Transmission Selector	11062449	2 C.P.
Cigarette Lighter Illumination	11062449	2 C.P.
Clock Illumination	11062449	2 C.P.
Power Antenna Switch Illumination	11062449	2 C.P.
Heated Rear Window Switch Illumination	11062449	2 C.P.
Battery Warning Lamp	9417561	2 C.P.
All Other Warning Lamps	VS 14110	2 C.P.
Turn Signal Indicator	11062449	2 C.P.
Dome Lamp (8VK and 8VL)	11030669	10 watt
Dome Lamp (8VX)	9414045	12 C.P.
Front Seat Reading Lamps (8VX)	455136	15 watt
Rear Seat Reading Lamps (8VX)	SP 1932	5 watt
Glove Box	11015639	5 watt

BULB REPLACEMENT

Headlights

Note: Do not touch bulbs or reflectors with bare hands. Greasy fingers will cause stains which evaporate — eventually resulting in a dull reflector.

Grease spots on Halogen-bulbs will, within a short time, lead to bulb failure.

Inadvertently stained bulbs may be cleaned with tissue paper, or a clean, non-fuzzy cloth, using alcohol or white spirits.

Headlight Aiming is a safety item and should be carried out by your GMH Dealer, the adjusting screws are on both sides of each headlight back cover cap.

Light Bulb Replacement

HEADLIGHT HIGH/LOW BEAM:

Sedan and Wagon

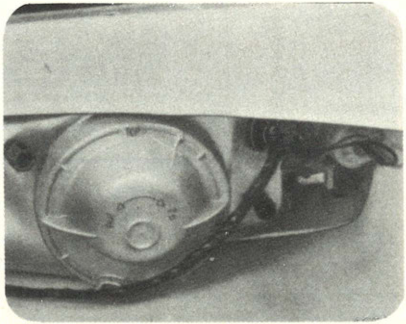
1. Open engine hood and support. Remove protective plastic cover.
2. Remove plug socket and wire from lamp base.
3. Remove cover cap by depressing against reflector, and turning counter-clockwise. Withdraw bulb from reflector housing.
4. Insert new bulb so that the lug at the bulb holder is lining up with the reflector notch.

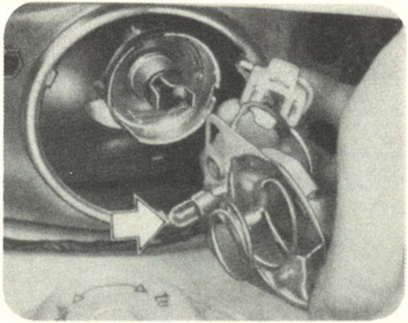
Proceed in reverse sequence to removal.

Parking Light

1. Remove cover cap by depressing against reflector, and turning counter-clockwise. Plug socket and wire will not have to be removed.
2. Remove parking light bulb by twisting it out of the cover cap.
3. Insert new bulb so that both base pins lock.

Proceed in reverse sequence to removal.

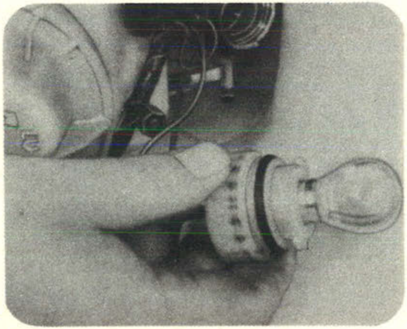




Front Turn Signal Lights

1. Pull out lamp socket located in the engine compartment next to the headlight.
2. Lightly depress bulb and remove in a twisting motion out of the socket.

Insert new bulb, and proceed in reverse sequence to removal.

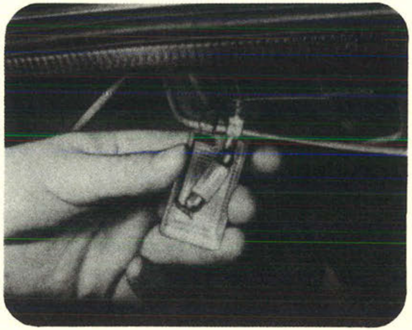


Instrument Panel and Console Lamps

Replacement of these bulbs is recommended only by a GMH Dealer or a competent person as all wiring and associated attachments are prone to damage if not serviced correctly.

Below illustrations show the light bulb replacement of the courtesy lamp as well as the luggage compartment lamp.

They apply as well to the bulb replacement of the engine compartment lamp where fitted.



Courtesy Light and Load Compartment Light

1. Press lamp out of recess, using a screwdriver. Be careful not to damage headlining when removing courtesy light.
2. Unsnap bulb from clips by applying slight pressure towards clips. Insert new bulb, and proceed in reverse sequence to removal. Make certain that lamp assembly is properly seated in place.

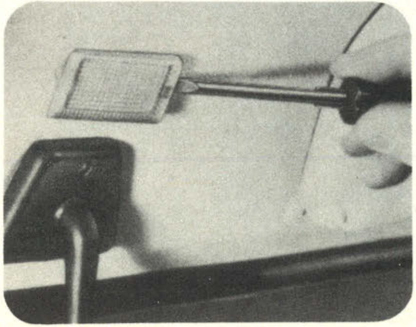
Central Dome Lamp (where fitted)

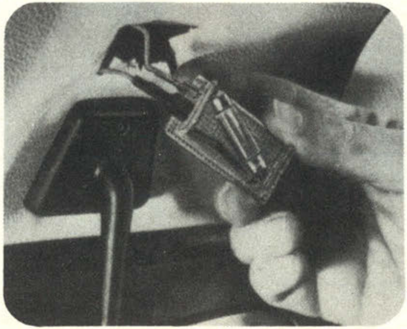
To remove, gently squeeze together the long sides of the plastic lens (not the plastic surround) to gain access to the bulb. The bulb is of the festoon type and can be removed by pulling it straight out from its retaining clips.

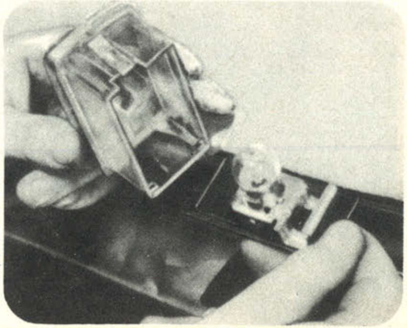
Licence Plate Light

1. Press lamp housing up and out by using a screw driver.
2. Remove bulb base from housing by depressing the protruding lug.
3. Remove bulb from socket.

Insert new bulb, and proceed in reverse sequence to removal.







Rear Turn Signals, Stop and Tail Lights, Back-up Lights

Sedan

1. Remove respective double-socket in the luggage compartment by pressing the two retaining lugs apart.
2. Remove bulb from socket. Bulb socket sequence from the outside to the inside: Turn Signal Light; Stop and Tail Light; Back-up Light.

Insert new bulb, and proceed in reverse sequence to removal.

Wagon

1. Unscrew the four Phillips screws and remove the lens.
2. Slightly depress respective bulb and rotate to remove from socket.

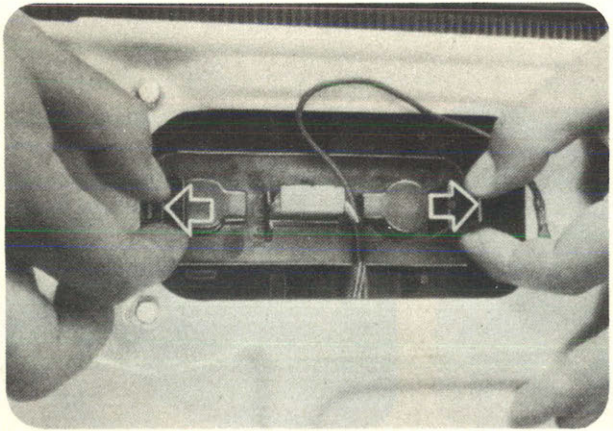
   Bulb socket sequence from the top downwards is

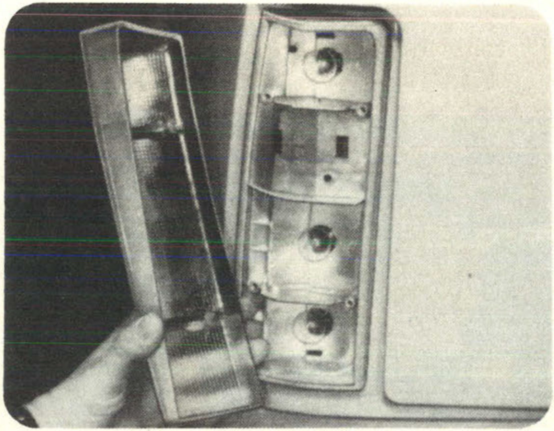
   Turn Signal Light

   Stop and Tail Light

   Back-up Light.

Insert new bulb, and proceed in reverse sequence to removal.





Section 6: Appearance, Maintenance and Service

Paintwork

The paint on your Commodore is finished in acrylic lacquer and will stay bright and new-looking provided you wash it regularly, using approved products. Weekly washing is recommended if the vehicle is being used constantly or if it is not parked under cover.

Before you wash the paintwork, thoroughly wash in and around the front and rear windows and check that door drain holes, tailgate drain holes and rocker sill vents are clean. Hose off any heavy dirt on the glass, but leave final cleaning of the glass until last.

Wash and Wax
SYNTHETIC
Chamois
Moisture Inhibitor
Polishing Liquid
Optikleen
Demister Cloth
Muffler Putty
AC Delco

Washing tips

Use either cold or warm water — preferably running.

Use clean chamois cloths, sponges or rags (old, clean linen is better than new material for glass).

Don't wash your vehicle in bright sunlight — it will streak.

Grease and oil can be removed with a little kerosene or white spirits. Flush with water afterwards.

If petrol is spilled during refilling, flush with water immediately.

Be sure that your cleaner, polish or wax is suitable for acrylic finishes. AC Delco Wash & Wax from your GMH Dealer is highly recommended.

Insect spots can be removed with a mixture of 220 grams of baking soda in 2 litres of water. Flush clean afterwards. New tyre look can be restored with AC Delco Tyre Black from your GMH Dealer.

Tarnished chrome responds well to AC Delco Polishing Liquid.

CLEANING OF INTERIOR

Care and Cleaning of Upholstery

Dust and dirt particles which accumulate on the surface of the interior trim should be removed every few weeks — more often with constant hard driving. This can be done readily with a vacuum cleaner. Before attempting to remove spots and stains from an upholstery fabric, it is necessary to determine as accurately as possible:

1. The type of fabric.
2. The nature and age of the stain.
3. The effect of the stain removal agent upon the colour, structure and general appearance of the trim material.

It is essential that stains be removed from the trim material as soon as possible after they have been made. If they are allowed to remain on the fabric for any length of time they very often become oxidised or set, and removal becomes difficult, if not impossible.

Cleaning Carpets

Thoroughly brush or vacuum the carpet. In many instances the carpet may require no further cleaning. If the carpet is extremely soiled, thoroughly vacuum it to remove loose dirt; then using AC Delco Car Care Upholstery Cleaner, clean approximately one square foot at a time. After each area is cleaned, remove as much of the cleaner as possible with a vacuum cleaner. After cleaning the carpet, use an air hose to fluff the carpet, pile, then dry the carpet. After the carpet is completely dried, use an air hose to again fluff the carpet pile.

Cleaning P.V.C. Coated Fabrics

Vinyl (P.V.C.) coated fabrics are used for seating, headlining and auxiliary trimming. The grades used vary according to their function. P.V.C. fabrics are generally made with fabric bases upon which synthetic resins are applied. Care of P.V.C. fabrics is a relatively simple but important matter. The surface should be wiped over with a dry cloth during the regular cleaning of the vehicle. Should dirt accumulate and become embedded in the material pattern the following procedure is recommended.

1. Using luke warm water and soap, work up thick suds on a piece of cheesecloth, and apply to the surface. A soft bristle brush can be used to advantage to remove stubborn stains or dirt embedded in the grain of the material.
2. Repeat using only a damp cloth and no soap.
3. Wipe dry with a soft cloth.

The above cleaning instructions also apply to the rubber floor mats.

Cleaning Seat Belts

Cleaning of the seat belts can be carried out by using a mild non-abrasive soap and lukewarm water. After washing be sure to thoroughly sponge the washing solution out of the belts.

CAUTION: Do not bleach or dye belts since this may severely weaken them.

Cleaning Leather Trim Material

Requirements for cleaning leather are similar to P.V.C. coated fabrics. The leather has a protective surface and coating which puts it in the same category as the P.V.C. material cleaning procedure for leather trim; follow the recommendations outlined in the previous section.

Cleaning Cloth Trim Material

Where the seats in your vehicle are upholstered with cloth, the following instructions should be observed.

Most loose dirt and dust can be removed by a vacuum cleaner or a soft brush. Do Not Use a Whisk Broom or a

Coarse Hair Brush. If normal soiling should take place, it is recommended that the fabric be sponged lightly with warm water containing a detergent and a small amount of ammonia. The fabric should then be rubbed lightly, and if necessary, sponged again to remove anything stubborn. Soak up excess fluid with dry cloth. GM Upholstery Cleaner may be used to advantage, but should be used sparingly.

Cleaning Ash Trays

Insert Type

To remove, open the lid of the ash tray and use the lid to pull out the ash tray complete. The tray can then be emptied and cleaned. To replace, reverse the procedure.

Tilt-Open Type

To remove, open ash tray, depress the spring loading tab in centre and carefully withdraw. The tray can then be emptied and cleaned. To replace, reverse the procedure.

Cleaning Glass

Glass

The interior glass areas of the vehicle should be cleaned using a non-abrasive household detergent and clean, soft cloth.

Care must be taken when cleaning inside the rear windscreen so as not to damage the heating element.

CAUTION: Many cleaners may be toxic or flammable, or may cause damage to the interior. When cleaning the interior, do not use volatile cleaning solvents such as: acetone, lacquer thinners, enamel reducers, nail polish removers; or such cleaning materials as laundry soaps, bleaches or reducing agents. Never use carbon tetracholride, gasoline or naphtha for any cleaning purpose.

IMPORTANT: Be sure the vehicle is well ventilated while using any cleaning agents. Follow the manufacturer's recommendations when using such products.

CLEANING OF EXTERIOR

Preliminary Steps

CAUTION: Care should be used when moving the vehicle after washing, in case water has affected the brakes.

Frequent hosing and washing of the vehicle cannot be overstressed as the most effective precaution against corrosion. Other items requiring attention before washing the vehicle are as follows:—

1. Underbody Cleaning

The effects of salts and other corrosive materials from road surfaces can result in accelerated rusting and deterioration of underbody components such as brake and fuel lines, frame, underbody floor pan, exhaust system, brackets, parking brake cables. These corrosive effects, however, can be reduced by periodic hosing of the underbody with plain water whenever the vehicle is being washed. In geographic areas having a heavy concentration of corrosive materials it is recommended that the complete underbody be inspected and washed at least once each year, preferably after a winter's exposure. Particular attention should be given to cleaning out underbody members where dirt and other foreign materials may have collected.

2. Cleaning Vinyl Top Where Fitted

The top should be washed frequently with neutral soap suds, luke-warm water and a brush with soft bristles. After the entire top has been cleaned, rinse with clear water to remove all traces of soap.

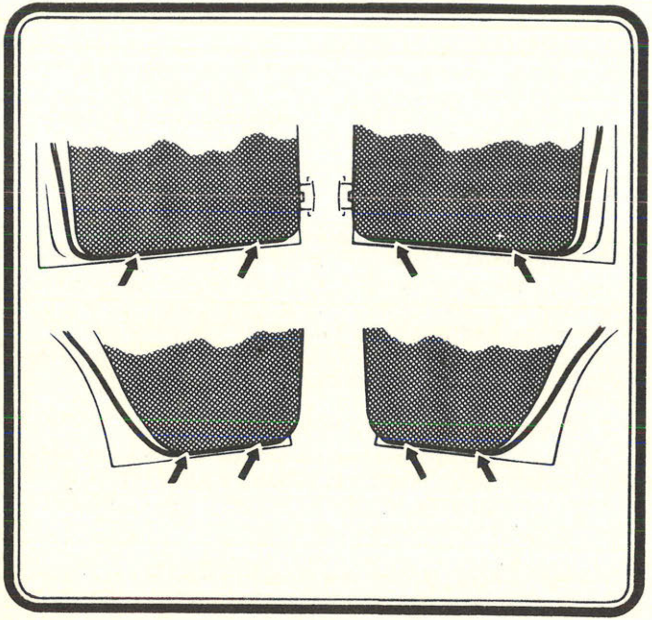
IMPORTANT: Do not use volatile cleaners or household bleaching agents on the vinyl top material.

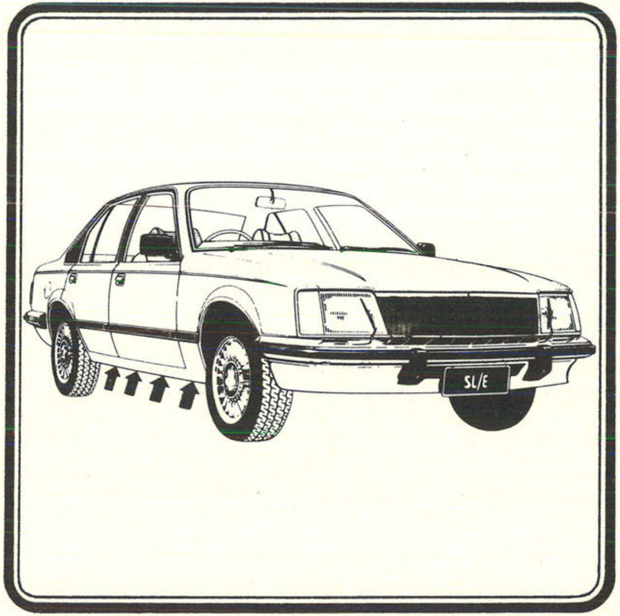
3. Door Drain Holes

It is important that the drain holes at the bottom of the door panels are checked to make sure that they are free of dirt and foreign matter, which could trap water inside the panels. Clogged drain holes can be cleaned with a small screwdriver and these drain holes are angled back towards the rear of the vehicle. (Refer illustration below.)

4. Rocker Sill Vents

In all models there are vents which should be regularly checked to see that they are clear of blockage, using a blunt ended instrument. These vents are formed as cut-outs in the sheet metal along the bottom edge of the rocker sill, being evenly placed between the front and rear wheel arches and face inward, towards the centre of the vehicle. (Refer illustration below.)





Glass

Special care should be taken to avoid scratching the glass when it is being cleaned. If it is cleaned at the same time as the rest of the vehicle, there is a possibility that particles of grit will cause fine scratches. An accumulation of these on the windshield can make night driving very unpleasant. Flush off any heavy mud deposits on the glass when washing the body, but leave the final cleaning and polishing until afterwards.

Each section of glass should then be washed in turn, making sure that the water, its container and the sponge are quite clean and free from grit. If the glass is very dirty, a little household ammonia mixed with warm water will help. Clean old linen cloth is better than new material for polishing glass.

Insect Spots

Insect spots on the paint finished parts of the vehicle can be easily washed off by using a solution containing 2 litres of water in which approx. 220 grams of baking soda (Bicarbonate of Soda) has been dissolved. Flush the washed parts with clean water. After washing and drying, park the vehicle in a shaded area.

Washing

The acrylic lacquer finish on your vehicle is superior to ordinary lacquers and will stay bright and new looking for years with little or no polishing, provided it is given a reasonable amount of regular washing to keep off road grime.

To preserve the original paint finish of the vehicle, it is essential that it is kept clean by frequent washing. Washing not only removes dirt and road grime that settles on the vehicle, but also dilutes acids which accompany such grime, in particular, salt from air or sea spray encountered in coastal areas which often become trapped in crevices. Tree sap, road tar, excretion from insects and industrial fall out often contain harmful chemicals and other foreign matter that may permanently damage the paint finish of the vehicle. these should be removed without delay, using an effective removal agent.

Regular Washing

If the vehicle is in continuous use, it should be washed at least once a week with either cold or warm water (preferably running water), using clean chamois leathers, sponges or rags free from dirt or grit likely to scratch the paint finish. It is good practice to first hose the vehicle to remove as much of the grit and grime as possible before swabbing the surface. Do not wash the vehicle under bright sunlight when high temperatures are being experienced, as this will resullt in a streaky, watermarked finish.

AC Delco Wash an Wax (Part No. M37226) loosens road grime to make washing easier and leaves paint shining clean.

NOTES:

1. Calcium chloride and other salts, road oil and tar, tree sap, chemicals from factory chimneys and other foreign matter may damage any known automobile finish if allowed to remain in contact with the paint film.
2. Some chemical cleaners used for removing road oils and tars from painted surfaces have been found to be detrimental to acrylic finishes. When purchasing a cleaner, polish or wax, ensure that it can be safely used on an acrylic finish.
3. Grease and oil, and even tar if it's fresh, can be removed from the finish with a little Kerosene or White Spirits. As a precaution against staining, wash and polish as soon as possible the area from which the foreign matter has been removed.

IMPORTANT: If petrol is spilt on the paint finish when refilling, owners are advised to ensure that it is flushed off with clean water immediately. The reason is that petrols currently in use have a tendency to stain or soften new paint finish during the weathering out period, particularly when the vehicle is exposed to high temperatures.

Paint Work Inspection

Regular inspection of the vehicle should be made for scratch marks, cracks or damaged areas, all of which could develop rust and thus affect paint finish. Any deep scratches, cracks or breakdown in the finish should be repaired without delay. Care should be taken to ensure that any rusting is counteracted immediately, otherwise rust "creep" will extend beyond the damaged area. This applies particularly in sub-tropical areas or coastal districts, where the moist or salt-laden atmosphere accelerates rusting if it is allowed to develop through neglect. The paint finish of the vehicle gives a very high degree of protection against the weather, but it should be realised that wear and deterioration occur when the vehicle is exposed to elements for prolonged periods.

The vehicle therefore should be garaged whenever possible.

Chromium Plated Parts

Generally, a rub with a clean soft cloth will be all that is necessary to remove dust from the chromium plated parts. However, if the chromium is covered with dead insects or mud, it should be washed with warm soapy water and then cleaned with AC Delco Polishing Liquid (Part Number M37221). This polish should also be used if the chromium shows signs of tarnishing. Do not use ordinary metal polishes as they may contain abrasives which would ruin the plating.

Polishing

Even though the acrylic lacquer finish on your vehicle is more durable than ordinary lacquers, under certain conditions you may wish to polish your vehicle to provide maximum protecton against road dirt and industrial fall out etc. Also, the application of a polish may be required to remove foreign matter which is not normally removed from vehicles by washing. Over a period of time, such foreign matter may build up on the paint surface to the detriment of its overall appearance.

Do not attempt to apply a polish without first washing to remove existing loose grit, surface dirt, dust or grease, etc.

Either AC Delco Polishing Liquid (Part No. M37221) or AC Delco Polishing Cream (Part No. M37220) will quickly and easily impart a deep, rich shine when used as directed on the container.

Tyres

Sponging with cold water is all that is necessary for normal cleaning of the tyres. Oil and grease can, and should, be removed with soap and water or detergent. For tar or other substances, a mild abrasive, such as mechanics' hand soap or kitchen cleaning powder, may be used if necessary. thoroughly wash the tyres with water to finish. Petrol must not be used for cleaning tyres.

New Tyre look can be restored by using Tyre Black.

GM Replacement Parts and Accessories

GM Parts & Accessories Division of General Motors-Holden's Ltd. is established to distribute GM Parts through Authorized GMH Dealers located throughout the Commonwealth from whom you can obtain new parts as required.

GM Parts are manufactured to the high standards of quality established for General Motors-Holden's vehicles — to the correct specifications and of the same materials as the original parts on your vehicle. They are, therefore, guaranteed, and it is definitely in your interest to specify them.

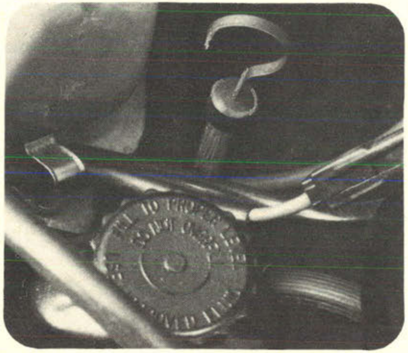
Oil

CAUTION: As with any machinery, extreme care should be taken when carrying out any inspections or maintenance job. If you have any doubts about your own ability, please have the job done by a qualified mechanic.

Initial Oil Fill

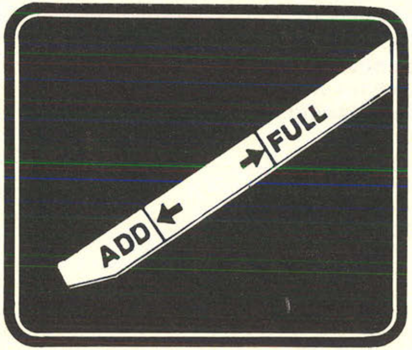
A high quality SE oil was installed in your engine at the factory. It is not necessary to change this factory-installed oil prior to the recommended normal change period. However, check the oil level more frequently during the running-in period since higher oil consumption is normal until the piston rings become seated.

NOTE: Non-detergent and other low quality oils are specifically not recommended. Only the use of SE engine oils and proper oil and filter change intervals assure you of continued proper lubrication of the engine.



Maintaining Oil Level

The oil level indicator is marked ADD and FULL. The oil level should be maintained between the two markings, neither going above the FULL marking nor under the ADD marking. Check the oil level frequently and add oil when necessary.



To check the oil level accurately, the vehicle must first be on level ground and the engine should be stopped for at least ten minutes. Checking the oil level too soon after stopping the engine will not allow sufficient time for oil, which has circulated to the upper parts of the engine, to drain back into the engine oil pan, and consequently, a false low reading will be obtained. Topped up under these conditions will result in the oil pan being over-filled.

Remove the indicator, wipe it clean with clean cloth or paper before reinserting it firmly. Pause for a second then withdraw the indicator to check the reading of the oil level.

The distance between the ADD and FULL marks represent approximately 1 litre on all engines. Oil level should be checked more often during the running-in period since somewhat higher oil consumption could be experienced until piston rings become seated.

Oil Consumption

In many cases, it is erroneously thought that engines should not use any noticeable amount of oil between oil changes. In actual fact every internal combustion engine should use a certain amount of oil to act as a lubricating and cooling agent especially during the running-in period.

There are several factors that contribute to oil consumption, apart from mechanical malfunction, that should be noted, and these are: the type of oil, the seating of piston rings, the oil level, and the conditions under which the vehicle is operated.

Running-in

The initial factory-fill oil should remain in the engine for the recommended period. (Refer this section.) Oil consumption may be high during the running-in period.

Lubrication

An engine is dependent on oil to lubricate the cylinder walls, pistons, rings and valve stems. A film of oil is left on the cylinder walls and burned on the next firing stroke while the film on the valve stems is drawn into the combustion chamber and burned. These quantities, while small, explain why an engine does use some oil.

Oil Level

Maintaining a proper oil level is also an important factor in controlling oil consumption. An overfull crankcase allows the reciprocating parts of an engine to splash oil on to the cylinder walls in quantities greater than the piston rings can control. This excess oil will be drawn into the combustion chambers and burned.

Overfilling the crankcase can result if the oil level indicator markings are not understood. (Refer to previous notes.)

Dilution

Probably the most prevalent complaint of oil consumption comes from the motorist whose vehicle is driven at below normal operating temperatures for long periods of time. The oil becomes diluted by fuel and moisture which settle in the crankcase, raising the oil level and creating a false reading on the oil level indicator. For example, in a vehicle that has accumulated 1500 kilometres of city operation and has consumed a normal amount of oil, the level may not have dropped from the FULL mark, due to dilution. If this vehicle is then driven for some distance at highway speeds on a warm day, the dilution elements evaporate, lowering the oil level and the motorist assumes the oil is being lost.

Speed Consumption

Sustained high engine speeds will increase oil consumption because higher speeds increase engine temperatures which lower oil viscosity and allow more oil to reach the combustion chamber.

If it is considered that the above possibilities can be accounted for but excessive oil consumption appears to continue, then it is recommended that you discuss the situation with a GMH Dealer.

NOTE: Non-detergent and other low quality oils are specifically not recommended. The use of break-in oils, tune-up compounds, friction-reducing compounds and other supplemental additives are not recommended; their use will only increase operating costs.

REMINDER: The use of proper engine oils and observing oil change intervals are your best assurance of continued reliability and performance from the engine of your vehicle.

In the event of an operational problem, consult your GMH Dealer for advice before using supplemental additives.

Oil Filter Replacement

The full-flow oil filter, with non-return check-valve, filters all the engine oil delivered by the oil pump. For this reason the interval of filter change is very important.

The oil filter should be replaced every six months or 10,000 kilometres whichever occurs first, independent of oil change intervals.

Under prolonged dusty driving conditions it is recommended that the oil filter be replaced more often.

NOTE: After the oil filter has been replaced, additional oil must be added:—

6 cylinder Engines—0.8 litre

8 cylinder Engines—0.8 litre.

Always use AC brand of oil filters, for replacement purposes.

Fuel Requirements

The vehicle is designed to operate on a good quality clean fuel of 98 octane rating. The use of a fuel which is too low in anti-knock property will result in "Detonation" (a metallic rapping noise generated during the combustion process). If "Detonation" persists, consult an authorized GMH Dealer. Continued operation of an engine which exhibits symptoms of "Detonation", may result in damage for which General Motors-Holden's is not responsible under the terms of the Warranty.

Oil Change Intervals

The amount of time between changes depends a lot on what you use the car for, and where it is driven.

The table indicates oil change intervals for cars used "normally".

If you usually drive on dusty roads; if you often take long trips; or — strangely enough — if you only use your car for to and from the office or the shops, you will need to change the oil more often. Say every month or every 5,000 kilometres.

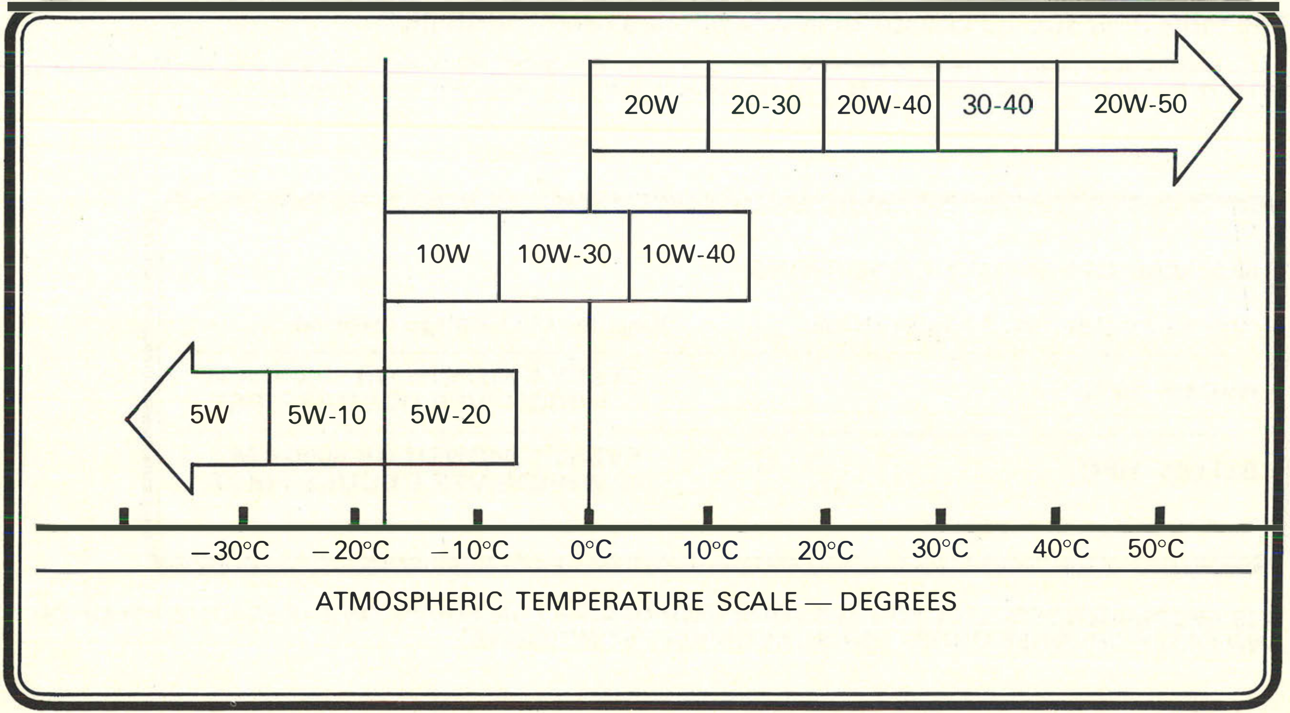
NORMAL OPERATING CONDITIONS

Prevailing Daytime Temperatures	Regular Oil Change Interval
ABOVE 10°C	EVERY 6 MONTH OR 10,000 KM — WHICHEVER OCCURS FIRST
BELOW 10°C	EVERY 1 MONTH OR 5000 KM — WHICHEVER OCCURS FIRST

IT IS RECOMMENDED THAT YOU SEE YOUR GMH DEALER FOR ADVICE ON THE FREQUENCY OF OIL AND FILTER CHANGES UNDER UNUSUAL DRIVING CONDITIONS.

Engine Oil Grades

The chart below is a guide to choosing a suitable oil.



Transmission Oils

Manual Transmission

Check the oil level every six months or 10,000 kilometres whichever comes first — and add oil to the level of the plug hole if necessary.

The oil should be changed at the six months or 10,000 service, then every two years or 40,000 kilometres.

Automatic Transmission

Use only DEXRON ® products. These are available from your GMH Dealer.

To check the fluid level:

First drive the car for several kilometres making frequent stops and starts. (A shopping trip would be ideal.)

Now pull up, put the car in PARK and leave the engine running while you check the dip stick. This is found under the bonnet near the drivers side rear of the engine compartment.

If the level is at or below the ADD mark, add fluid until the stick reads FULL — it will take about ·5 litre. Don't overfill.

Transmission fluid should be changed every two years or 40,000 km., or more often if you drive in the city in summer or use it to pull a caravan, or if you often leave it idling — like a taxi or patrol car.

This interval should be halved for heavy usage.

Rear Axle Oil

This should be checked every six months or 10,000 km whichever comes first. If necessary, add oil to bring the level of the oil to the plug hole.

SERVICING

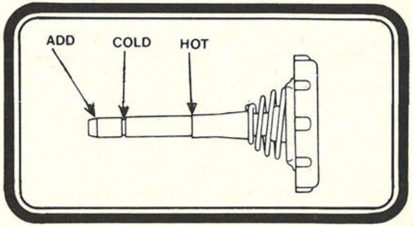
As all adjustments, cleaning and servicing of automatic transmissions requires specialized equipment and knowledge it is recommended that these operations be performed by an authorized GMH Dealer.

Power Steering

At each oil change period the fluid level in the pump reservoir should be checked using the fluid level indicator which is attached to the filler cap. This operation can be carried out when the fluid is either cold or hot.

NOTE: When checking the fluid level the engine must be stopped with the front wheels in the straight ahead position. If the reading is taken before vehicle is operated (i.e. when the fluid is cold) the fluid level should be at the COLD mark on the indicator. If the reading is taken after the vehicle has been operated for at least 10 to 15 minutes (i.e. when the fluid is hot) the fluid level should be at the HOT mark on the indicator.

After checking the fluid level and it is found to be at or below the ADD mark on the indicator use DEXRON II automatic transmission fluid to raise the level to the appropriate mark as described above.



Cooling System

This must be serviced regularly if the engine is to operate efficiently.

Rust Protection

High purity water should be used with a GMH approved corrosion inhibitor.

If you live in an area where water has a high level of mineral or chemical content, use rainwater or distilled water.

If you need to use borewater in an emergency — change it for clean water as soon as possible.

Follow the directions on the pack when adding a corrosion inhibitor.

Radiator Pressure Cap

Because of this cap your engine can work at over 100°C without boiling.

If your engine should overheat, refer to instructions on page 69.

Filling the cooling system

With the engine cold fill the radiator until coolant enters the reservoir via the overflow outlet tube. Fit the radiator cap and start the engine.

During the warm-up period coolant will be expelled from the radiator into the reservoir due to expansion.

When the engine is at normal operating temperature check the coolant level in the reservoir and, if required, top up to the "MAX. Level when hot" position shown on the reservoir. SUBSEQUENT topping-up of the reservoir, with the engine hot, will ensure that the radiator is always full without having to remove the radiator pressure cap.

Should at anytime the reservoir become completely empty remove the radiator cap and follow the filling procedure detail.

Draining and Flushing

Every six months or 10,000 km drain and refill the radiator and add a GMH approved corrosion inhibitor coolant. To drain the radiator — loosen the cap, locate the lower radiator hose and loosen the clamp fastening this hose to the radiator. Now disconnect this hose.

4-Cyl. Unscrew the square head plug at the right rear of the cylinder block, adjacent to the oil pressure sender.

6-Cyl. Remove the hexagon plug on the L.H.S. towards the rear of cylinder block.

8-Cyl. Remove the hexagon head plugs midway along each side of cylinder block, above oil pan flange.

REMINDER: Replace and properly tighten all drain points before refilling.

Do not use cleaning chemicals to loosen scale unless the cooling system is afterwards thoroughly reverse flushed, otherwise loosened scale may clog the radiator water passages.

For complete removal of loose sediment and sludge from the radiator and water jacket, pressure flushing with an air and water gun is recommended, and as this method of flushing requires special equipment we suggest you have this work carried out by your GMH Dealer.

Anti-freeze Fluid

This is essential if your car is run for any length of time in snow areas.

The recommended brand — GM 1899M — can be supplied by your GMH Dealer.

It contains an anti-corrosion element as well.

If this product is not available and you need to park overnight in a snow area you must drain the main radiator and cylinder case. Otherwise, your radiator may burst or the cylinder case crack.

CAUTION: Draining of the main radiator and cylinder case assembly will not drain the water out of the heater radiator; therefore, the use of Anti-Freeze will eliminate the risk of a damaged heater core.

Corrosion Inhibitor

HN-1109 (PART No. 2822485)

It is recommended that engine coolant system corrosion inhibitor HN-1109 be added as follows after regular draining:

4 & 6 Cylinder Engines — 120 ml.

8 Cylinder Engines — 140 ml.

These quantities are only applicable when water of a high purity is used.

MIXING INSTRUCTIONS

The recommended quantity, for the particular engine, should be added to a bucketful of water and stirred before pouring the water into the radiator. Then complete the filling of the cooling system with water. It is not recommended that water be added to a container, into which the inhibitor has first been poured.

COLOUR INDICATIONS

Initially, the inhibitor will cause a pale transparent green colouration to the water. After some time the colouration may change to greenish-yellow. In either case, these colours indicate that the cooling system is being protected by the inhibitor.

NEW RADIATOR PROCEDURE

Where a new radiator is fitted, use inhibitor HN-1109 and drain after the first 6 months or 10,000 kilometres.

Use of Anti-Freeze Fluid

The recommended anti-freeze fluid is permanent type (ethylene glycol) GM 1899M, which can be obtained through a GMH Dealer who, before adding, should make a thorough check of the cooling system.

NOTE: Anti-freeze provides the action of a corrosion inhibitor, eliminating the necessity for a separate additive.

Where a vehicle is to be parked overnight or operated for any length of time in regions where temperatures of 0°C or below are encountered (e.g.—snow areas), the recommended brand of anti-freeze fluid should be used in the cooling system in accordance with the instructions specified.

COLD WEATHER DRAINING

If the recommended brand of anti-freeze fluid is not available, the radiator, and cylinder case, MUST be drained before parking to prevent the possible bursting of the radiator, or cracking of the cylinder block which can occur if the coolant freezes.

Brake Master Cylinder

Every 6 months or 10,000 kilometres check the fluid level in the master cylinder. The fluid level visible through the reservoir should be maintained between the MIN and MAX level markings. If the fluid is between these levels do not remove master cylinder cap. If the master cylinder requires constant topping up it could indicate that a malfunction exists in which case it should be immediately brought to the attention of your servicing GMH Dealer.

Battery (12 volt)

The battery is located in a metal cradle mounted on the left hand fender skirt in the engine compartment and the negative (−) terminal is "grounded". Never disconnect the battery or generator when the engine is running. Always connect Positive (+) to Positive (+), Negative (−) to Negative (−) whenever a battery charger is used.

Fluid Level

The battery fluid level should be maintained at 1 cm above the plates by adding distilled water. Distilled water will be required more frequently in summer than in winter. It is a good plan to check the fluid level at about 1 month intervals in Summer and two months in Winter. When long daylight runs are made, water may need to be added still more frequently. Do NOT overfill, particularly when cold, as subsequent operation at higher temperatures and on long distance driving may cause loss of acid. Keep all battery terminals clean and tight.

When cleaning batteries, wash first with a dilute ammonia or soda solution to neutralize any acid present. Then flush off with clean water. Care must be taken to keep the vent plugs tight so that the neutralizing solution does not enter any cells. Dry off the affected area of the body, battery mounting and retainer, then repaint with paint resistant to sulphuric acid. After reconnecting battery cables, apply a thin coating of petroleum jelly to the battery posts and cable clamps to help retard corrosion.

CAUTION: Never expose a battery to open flame or electric spark — battery action generates hydrogen gas which is flammable and explosive. Don't allow battery fluid to contact skin, eyes, fabrics, or painted surfaces — battery fluid is a sulphuric acid solution which could cause serious personal injury or property damage. Flush any contacted area immediately with water. Wear eye protection such as industrial safety spectacles or goggles when working on or near a battery. Remove rings, metal watchbands and other metal jewellery before jump starting or working around a battery, and be careful in using metal tools — if such metal should contact the positive battery terminal (or metal in contact with it) and any other metal on the vehicle, a short circuit may occur which could cause personal injury. Batteries and battery acid should always be kept out of the reach of children.

Air Cleaner

The air cleaner element should be removed and cleaned every 6 months or 10,000 km and replaced every 24 months or 40,000 km. If the vehicle is operating in extremely dusty conditions for any length of time the air cleaner should be cleaned more frequently.

Ensure that the thermal vacuum signal hose is connected to the carburettor and air cleaner when re-installing the air cleaner.

CAUTION: Do not remove the engine air cleaner unless temporary removal is necessary during repair or maintenance of the vehicle. When the air cleaner is removed backfiring can cause fire in the engine compartment.

Engine Ventilation Filter

The engine ventilation filter is located in the air cleaner cover.

Every 12 months or 20,000 kilometres clean the engine ventilation intake filter with kerosene or a suitable solvent. Dry with compressed air.

EVAPORATIVE CONTROL SYSTEM

Every 24 months or 40,000 kilometres check all fuel and vapour lines and hoses for proper connections and correct routing as well as condition. Remove canister and check for cracks or damage. Replace damaged or deteriorated parts as necessary. Replace filter in lower section of canister.

WINDSHIELD NOTES

Windshield Cleanliness

It is important, at all times, that the windshield surface be maintained in a clean condition so that the wiper blades may be as effective as possible in wiping clean the surface.

Use of the windshield washer and Optikleen washer solvent will assist in removing dirt and dust particularly when driving at a time when no rain is falling; however, every opportunity should be taken to wipe or wash the windshield by hand (most Service Stations have such a service today as a courtesy item).

Abrasive materials must never be used to remove a build-up of road scum, etc., as a scratched windshield will cause difficulty in achieving proper vision, particularly in night driving. Therefore, after the windshield has been cleaned with a wet spong etc., it should be wiped dry with a soft, lint free cloth or even a ball of newspaper.

WIPER WASHER

Wiper Blades — Cleaning

Much of the oil road scum thrown up onto the windshield glass, causing smearing when the wiper is switched on, transfers onto the wiper blade. Many owners, whilst they methodically clean the windshield glass, omit to clean the wiper blades and consequently smearing of the glass re-appears immediately the wiper blades are set in motion. The blades can be cleaned by simply lifting them off the windshield glass and then using warm water and a recognised washing fluid. If so desired, the wiper blade can be removed from the arm for cleaning purposes by simply disengaging it from the arm in accordance with the following instructions:—

1. Lift up tab at the end of the arm and remove blade sideways.
2. To replace, slide the blade pin into the hole in the arm clip, noting an audible click.

Washer Reservoir

A plastic reservoir containing liquid for the windshield washer is mounted in the engine compartment. It is suggested that when checking the radiator coolant level, the washer reservoir be checked also. For a crystal clear view Optikleen Washer Solvent (Part Number M37068) can be used by adding from the graduated container, the recommended proportion.

CAUTION: Do not operate the wiper blades by hand as this may damage the wiper drive mechanism.

In dry conditions, if the wiper blades are used to clean dust and dirt from the windshield always use the washer system to wet the windshield. Ensure that the windshield washer reservoir is checked regularly all the year round.

Should the wiper blades be frozen to the windshield, it is imperative that they be lifted off and freed by hand before switching on the windshield wiper system.

Lubricants and Filters

Engine Oil

Use oil to HN1455 specifications. (Refer page 120 for grades and application.)

Power Steering Fluid

DEXRON* Automatic Transmission Fluid, GM9985286

Manual Transmission Oil

Multigrade to HN1046 specification 80-90 viscosity rating.

Automatic Transmission Fluid

*DEXRON automatic transmission fluid only, identified also by Part No. 9985286 should be used for topping up or service refills.

*DEXRON is a registered trademark of General Motors.

Rear Axle Oil

Use Multipurpose Hypoid gear oil in this order of preference, HN 1386 or HN 1187 or HN 1181. Limited Slip Differential — where fitted use oil to GM HN1561 specification only.

Front Suspension and Steering Ball Joints

E.P. Type Lithium grease. Always ensure that a high quality grease of suitable type is used.

Front Wheel Bearings

Grease to HN 1227 specification.

Brake Fluid

Fluid to GM 4653M Type 450 specification.

Control Systems

Brake and Clutch Pedal Pivots, Clutch Linkage, Transmission Control Linkage, Accelerator Pivots, Parking Brake System, Pivot and Guides. Grease to HN 1225 (LG-2) specification.

Body

Normal use of a vehicle causes metal-to-metal movement at certain points in the body. Noise, excessive wear and improper operation at these points will result when a protective film of lubricant is not provided. Servicing and lubrication should be an integral part of the lubrication service and should be checked out as required every 6 months or 10,000 kilometres.

Powdered Graphite

(Apply through key aperture)

Door Lock Cylinder
Instrument Panel Compartment Lock Cylinder
Rear Compartment Lid Lock Cylinder
End-Gate Lock Cylinder

Non-Staining Grease or Zinc Oxide Grease

(Use sparingly on parts likely to be contacted by clothing)

Engine Hood Catch and Lock
Rear Compartment Hinges
Engine Hood and Door Hinges
End-Gate Locking Mechanism and Hinges

Solidoil

(Use sparingly on working surfaces)

Door Lock Fork
Door Lock Striker Bolt

IMPORTANT: Remove all lubricants that may have dropped or spread onto the external paint finish.

Tyres

Inside the lid of your glove box you will find a chart showing correct tyre inflation pressures for your vehicle under different operating conditions.

Always check tyre pressure when the tyres are cold, and always use a tyre pressure gauge. Your eye can deceive.

Tyre Pressure Recommendations

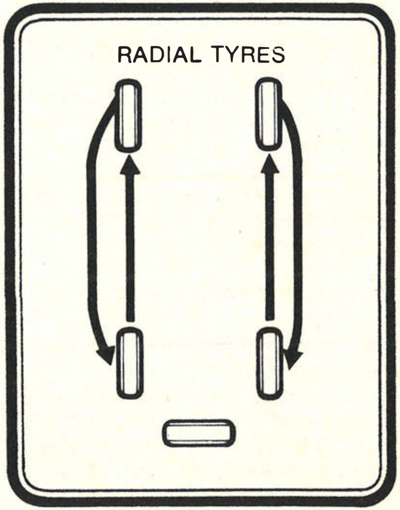
1. Tyre pressures should be checked when the tyres are cold (when the vehicle has been standing for 3 hours or more, or driven less than 2 kilometres).
2. Tyre inflation pressure may increase as much as 30 kPa (4 psi) when hot, (after the vehicle has been driven 15 kilometres or at speeds of more than 95 km/h. DO NOT reduce pressures to compensate for this build up. As a guide for checking warm/hot tyres under all conditions, allow pressure to read 10% above that recommended.
3. It is recommended that the pressures are checked at least weekly. For constant long distance or rough road travelling daily checking is recommended. To maximise the protection of tyres on vehicles operating for prolonged times over rough roads i.e. particularly in outback conditions, it is recommended that the cold tyre inflation pressure recommended for high speed operation at maximum load condition as shown on the tyre placard is used.
4. Do not forget the spare tyre: It is advisable to maintain the spare at the **maximum recommended tyre inflation pressure** listed on the placard.

Tyre Rotation

If no abnormal or uneven wear is evident, if you have not experienced any vibration, tyres need not be rotated.

Front tyres are more prone to wear on the shoulder while rear tyres wear more on the crown. Wear can be evened out by rotating the tyres.

Check them at the 5,000 km inspection, then at intervals of 10,000 km. Your GMH dealer will be able to diagnose any unusual signs of wear and can also balance the wheels and tyres for you.



Tyre Speeds

The speed ratings of a tyre are indicated by the following letters:

On bias-ply (conventional) tyres —
W — 135 km/h
— — 150 km/h
L — 160 km/h
S — 175 km/h
H — 200 km/h

On radial-ply tyres —
W — 135 km/h
— — 170 km/h
S — 180 km/h
H — 210 km/h

Tyre Replacement

Use only tyres recommended on the chart inside the glove box.

Don't mix cross ply and radial ply tyres on your vehicle and don't mix radial ply tyres with other types of tyres. New tyres should be fitted in pairs to the front but if replacing only one tyre, pair it with the least worn of the old tyres.

And if you replace all tyres with tyres of a different size, your speedometer readings may be affected. Have the car checked afterwards.

Tyres with a higher speed rating and/or with a maximum load rating in excess of that listed on the tyre placard for tyre size listed are also acceptable as replacements provided they are fitted to a suitable rim size.

For example —

TYRE SIZE DESIGNATION		**MAXIMUM LOAD RATING**	
Listed	**Others Acceptable**	**Listed**	**Others Acceptable**
CR78S14	CR78H 14	558 kg	Greater than 558 kg
CR78H14		599 kg	Greater than 599 kg
CR70H14		599 kg	Greater than 599 kg
BR60H15		558 kg	Greater than 558 kg
BR78S13*		558 kg	Greater than 558 kg

Uneven or abnormal tyre wear is usually the result of incorrect inflation pressure, improper wheel alignment, wheels being out of balance, or poor driving habits. The original equipment tyres incorporate built-in tread wear bars which act as indicators to assist in determining when the tyres have worn to the point of needing immediate replacement.

When the wear bars appear, tyre replacement should not be delayed, in the interests of safety.

Radial Ply Tyres

Radial Ply Tyres have radial marked on them. Because of the stiffening belt under the tread the ride characteristics of Radial Ply Tyres may be somewhat different from that of conventional tyres.

The under-inflated appearance of the radial tyre is normal.

Tyres used at maximum speeds must be in good condition and not retreaded or regrooved. Refer to the chart inside your glove box for appropriate tyre pressures.

When driving in very rough country, radials should be inflated to the recommended high speed operation pressure, being 28 kPa (4 psi) above the maximum load condition setting shown on the tyre placard.

*4 Cylinder Model.

Heavy Treads

Caution must be exercised when using tyres with heavy treads, including tyres designed to gain traction in bad weather conditions. At sustained high speeds, this type of tyre will run at higher temperatures than standard tyres and consequently should only be operated within the limits recommended by the manufacturer.

Any doubts concerning the fitness of the tyres on your vehicle for the purpose you require should be referred to your GMH Dealer, who will be pleased to advise.

Tyres and Fast Motoring

It should be noted that all the maximum speed recommendations require the following:

The tyres must be in

1. good condition, the walls and treads being free of cuts and abrasions,
2. treads must not be excessively worn, tread pattern should still be visible over the entire tread surface,
3. the tyres should not be retreaded or regrooved,
4. the tyre pressures should be as shown on the Tyre Placard for loading and speed operation.

SUGGESTED GUIDE FOR CHECKING HOT TYRES —

As a guide for checking warm/hot tyre "under all conditions", allow pressure to read 10% above that recommended for cold tyre.

Tyre Traction

CAUTION: A decrease in driving, cornering, and braking traction occurs when water, snow, ice, gravel, or other material is on the road surface. Driving practices and vehicle speed should be adjusted to the road conditions.

When driving on wet or slushy roads, it is possible for a wedge of water to build up between the tyre and road surface. This phenomenon, known as hydro-planing, may cause partial or complete loss of traction, which adversely affects vehicle control and stopping ability. To reduce the possibility of traction loss, the following precautions should be observed:

1. Reduce speed levels during rainstorms or when roads are slushy and if the road has standing water or puddles.
2. Replace tyres when tread wear indicators are visible.
3. Check that tyres are properly inflated for speed range and vehicle loading.

Tyre Damage and Repair

Tyres with cuts, splits or cracks deep enough to expose the fabric, should be replaced. Bulges also indicate internal damage, and these tyres should also be replaced. Tyres with doubtful damage should be removed from the wheel and examined by a competent person.

If a pressure loss occurs while driving, do not attempt to drive on the deflated tyre more than is necessary to stop safely. Driving even a short distance on a deflated tyre can damage it beyond repair.

When puncturing objects are removed, repairs will have to be made according to the recommendations of the tyre manufacturer.

It should always be remembered that a tyre which has been repaired will not be able to be operated safely at the rated maximum speed and due care should be taken.

Replacement Wheels

When replacing wheels for any reason, care should be taken to ensure that the wheels are equivalent to those removed in diameter, rim width and offset.

Service and Maintenance

Owner Maintenance and Responsibility

The following items should be checked weekly between services:

- Battery Fluid level
- Engine Oil level
- Cooling system level (radiator)
- Brake master cylinder fluid level
- Windshield washer reservoir level
- Battery terminals (for corrosion)
- Tyre pressures
- Condition of tyres

It is your responsibility to have your car serviced regularly and to ensure that the mechanic has attended to all points listed for that particular service. Not to do so may affect your warranty.

Service Dealer's Responsibility

Your Service Dealer must attend to all items listed for any particular service and must see that the validation coupon is signed.

Service coupons are in this book in the following section.

CAUTION: As with any machinery, extreme care should be taken when carrying out any inspections or maintenance job. If you have any doubts about your own ability, please have the job done by a qualified mechanic.

Owner's Responsibility

Normal maintenance services as listed in this servicing schedule contained on pages 135 and 136 in this Handbook, and replacement of service items, are the responsibility of the Owner and as such are NOT considered, under the provisions of the New Vehicle Warranty, to be rectification of defects in material and workmanship.

Items such as wheel alignment, brake adjustment as a result of lining wear, etc., which may require servicing due to fair wear and tear, will be carried out at the owner's cost.

We strongly recommend that you read the Warranty Certificate at the front of this handbook, so that you are conversant with your entitlements.

Water and atmospheric conditions, varying road surfaces, individual driving habits and vehicle usage, greatly contribute to the need for constant maintenance services to promote efficient vehicle operation. (Refer over.)

Operating Conditions

Normal Conditions

The maintenance instructions contained in this publication are based on the assumption that the vehicle will be used as designed and is operated in accordance with the instruction provided in the owner manual.

Extreme Conditions

Extreme operating can be described as that where a vehicle operates continually for a period of 1 month or 1500 kilometres under the following conditions:

Condition

1 Dust, dirt, loose road metal.
2 Muddy and wet areas.
3 Cold weather — below 10°C.
4 Stop-start, as experienced in inner city driving.
5 Caravan or Trailer hauling.

In such circumstances it is suggested that the following items be serviced more frequently than at the periods recommended in the Guardian Maintenance Plan.

Conditions	Items
1 — 3 — 4	Engine oil.
1	Engine oil filter.
1 — 2	Front suspension, steering, and parking brake system.
5	Automatic transmission fluid
1	Engine air cleaner element.
1	Brake Servo air filter.
2	Front wheel bearings.
2	Manual transmission, drive line joints and rear axle.

If at any time it is considered that the above items or other items should be more frequently serviced due to the type of operation or before a long trip, discuss the situation with the service manager of your GMH Dealer.

Guardian Maintenance Plan

The 3-Step Service Concept

The fundamental points are:

1. A basic service interval period of 6 months or 10,000 kilometres whichever occurs first.
2. A "step" principle of 3 correlated services.
3. The frequency of these services is:

   "A" service items — Serviced every 6 months or 10,000 km
   "B" service items — Serviced every 12 months or 20,000 km
   "C" service items — Serviced every 24 months or 40,000 km

Service Designation	—A—	—B—	—C—
Items	Group I	Groups I & II	Groups I, II & III

Up to the 3rd step in the items programmed in the earlier steps are included.

The total time/distance range of this Guardian Maintenance Schedule is 66 months or 110,000 kilometres.

Total Programme

Pre-Delivery Service

1 Month — 1500 Kilometres
Inspection and Adjustment

Then as required: (Months — km whichever occurs first)

A @ 6-10,000

B @ 12-20,000

A @ 18-30,000

C @ 24-40,000

A @ 30-50,000

B @ 36-60,000

A @ 42-70,000

C @ 48-80,000

A @ 54-90,000

B @ 60-100,000

A @ 66-110,000

Guardian Maintenance

Once the first service has been completed, dependability and performance are influenced by the degree of maintenance the vehicle receives.

Safety, economy and dependability cannot be assured unless regular maintenance is performed, preferably by factory-trained technicians. It is preferable to receive these services from the Dealer from whom the vehicle was purchased. However, Guardian Maintenance will be attened to by any Authorised GMH Dealer on presentation of the Owner Handbook, no matter where you may be situated.

What The Owner Should Do

When service, according to the time or distance interval, is due, the owner should present this Owner Handbook to a GMH Dealer as an authority to have the items listed attended to. After this work is completed, the owner should see that the Validation Record is stamped and signed by the dealer. The Handbook with the Validations completed is evidence that a vehicle has been adequately maintained. This is important as it will not only assist in the determination of Warranty Claims, but enhance the value of the vehicle whenever resale is contemplated.

What The Servicing Dealer Has To Do

Attend to all items listed for the particular service. When this has been done, it is most important that the Owner Handbook Validation be signed by the dealer or his representative.

All operations listed on the Service Coupons should be carried out following the procedures set out in the appropriate service manual.

Guardian Maintenance Plan

GROUP I UNDER HOOD OPERATIONS

	Change engine oil (and filter — L4)
	Check all fluid levels accessible in engine compartment, e.g. brake, coolant, washer, battery electrolyte, auto transmission, power steering reservoir.
	Inspect condition and adjust tension of all engine drive belts. Adjust if necessary using gauge.
	Inspect condition and attachment of all hoses in engine compartment, including all emission systems pipes and connections.
	Wipe inside of distributor cap.
	Check operation of early fuel evaporation (EFE) system. Exhaust heat manifold valve should be checked for free operation. (L6 and V8.)
	Inspect engine air cleaner element for restriction and condition. Replace if necessary. (6 Cyl. Heavy Duty Units — rinse foam element, dry, re-oil then replace.)
	Check air pre-heat control damper assembly for correct cold and hot operation.
	Check operation of idle stop solenoid(s).
	Check automatic choke for free operation.
	First 'A' Service Only. Check torque of carburettor mounting bolts. Check operation of EGR valve, where fitted.
	Clean radiator core — check for blockages.
	Drain and refill cooling system and recharge with inhibitor.
*	First 'A' Service Only. Air Conditioning Only— Check and if necessary adjust compressor drive belt using gauge. Check compressor mounting bolts for tightness Inspect refrigerant hose connections for evidence of leaks, correct if necessary. Check refrigerant charge at sight glass if so equipped or use 'Quick Check' method if system has no sight glass. Check that blower operates over the range of speed settings. Check operation of auxiliary cooling fan.
*	All 'A' Services after the first.* Check refrigerant charge at sight glass if so equipped, or use quick check method if system has no sight glass.

GROUP I UNDER VEHICLE OPERATIONS

	Change engine oil filter. (L6 and V8.)
	Manual Transmission Only. Check oil level.
	Check rear axle oil level and inspect CV joint for grease loss or damage.
	Inspect and lubricate front suspension control arm ball joints.
	Inspect steering joints.
	Check front suspension struts for leaks or damage.
	Lubricate transmission shift and clutch linkages as applicable.
	Check parking brake operation. Adjust if necessary.
	Inspect exhaust system and adjacent body areas for open seams or damage. Inspect for leaks and damage — brake and fuel lines, shock absorbers and mountings.
	Inspect engine and transmission mountings.
	Check and adjust clutch control pedal height.
	Inspect tyres for irregular wear or damage and advise owner, if necessary, of any corrective maintenance required. Check inflation pressures and torque wheel nuts.
	Inspect disc brake pads for wear, front (and * rear if fitted).

GROUP I INTERIOR VEHICLE OPERATIONS

	Check operation of all warning indicators, ignition steering lock, brake and parking brake lights and interior electrical system items and controls. Check all internal lights.
	Check heating, ventilation and demisting system ducts are clear and operation is satisfactory and controls correctly adjusted.
	Seat belt inspection. Examine webbing condition, buckle operation and retractor mechanism function. Notify owner of any deficiencies observed for immediate rectification.
	Station Wagon * check rear seat movement and lock operation.

P.T.O.

Guardian Maintenance Plan

GROUP I EXTERIOR VEHICLE OPERATIONS

	Lubricate door handle pivots, door hinges, striker bolts or plates, hood lock and catch as required.
	Check vehicle on the road for even braking and steering, transmission operation, engine response and parking brake operation. Check mirrors, seat adjustment and automatic transmission shift pattern. Check operation of cruise control (where fitted).

GROUP II UNDER HOOD OPERATIONS

	Lubricate distributor. Check condition of cap and rotor. Check TVRS cables for resistance. Replace spark plugs. Replace distributor points (L4). Check ignition timing.
	EGR System Only — Clean valve and manifold opening.
	Auto Choke. Check and adjust if necessary settings. Check Ignition timing, engine idle speed and fast idle speed on choke cam, adjust if necessary.
	Serviceable PCV Valves — Dismantle, clean and re-assemble. Disposable PCV Valves Test and replace if necessary.
	Clean PCV intake filter located in air cleaner cover.
	Clean or replace fuel filter as necessary.
	Drain and refill cooling system. Add specified quantity of inhibitor.
*	Air Conditioning Only — Inspect condenser to ensure that it is not plugged with leaves or other foreign material. Check evaporator drain tube for dirt and other restrictions. Inspect flexible hose lines for leaks and brittleness.

GROUP II UNDER VEHICLE OPERATIONS

	Rear Drum Brake Only — Inspect linings and drums for wear. Wipe off dust. Check self-adjusting mechanism.
	Inspect front wheel bearings and check adjustment. Repack only if necessary.
	Check steering gear for leaks or free play.
	Check operation of transmission shift linkage where applicable. Adjust if necessary.

GROUP III UNDER HOOD OPERATIONS

	Replace air cleaner element if not yet changed in previous 24/40 period.
	L4 and L6 engines, clean fuel pump valve housing.
	Replace PCV intake filter.
	Evaporative control system. Check all fuel and vapour lines and hoses for proper connections and correct routing as well as condition. Remove canister and check for cracks or damage. Replace damaged or deteriorated parts as necessary. Replace filter.

GROUP III UNDER VEHICLE OPERATIONS

	Repack front wheel bearings.
	Inspect steering gear, linkage and dust covers for wear and security. Notify owner of any deficiencies for immediate rectification.
	Auto Transmission Only — Drain and refill fluid. Adjust band and replace filter.
*	Rear Disc Brake Only — Inspect parking brake linings and drums for wear.
	Check Brake Hydraulic System for correct level. Remove Master Cylinder lid and add fluid if necessary.

Additional Service—refer page 163.

N.B. It should be understood that whenever a B or C service is being carried out, some items on an earlier operation, may be superseded or modified by a later operation.

Pre-Delivery Operations

Check, and adjust if necessary, the following items:

UNDER HOOD OPERATIONS

- Oil levels of engine, auto trans, brake master cylinders, power steering reservoir (if fitted) and Battery Electrolyte level.
- Hose connections, fill radiator and windshield washer reservoir. Ensure corrosion inhibitor is present in radiator.
- Air filter element.
- Air Conditioning — Check and if necessary adjust compressor drive belt using gauge.
- Check compressor mounting bolts for tightness. Inspect refrigerant hose connections for evidence of leaks, correct if necessary. Check refrigerant charge at sight glass if so equipped or use 'Quick Check' method if system has no sight glass. Check that blower operates on each speed setting. Check operation of auxiliary cooling fan.

UNDER VEHICLE OPERATIONS

- Oil, fuel, water and exhaust leaks.
- Check operation of steering gear from lock to lock, if excessive free travel evident, adjust steering.
- Oil levels in manual transmission and rear axle.
- Brake line connections — check hoses for correct clearance.
- Brakes — foot and park.
- Inspect tyres and inflate to recommended pressures. Check toe-in.
- Tighten wheel nuts to specified torque.

INTERIOR OF VEHICLE

- Operation of all warning indicators, ignition steering lock, brake and park brake lights and interior electrical system items and controls.
- Neutral safety switch and transmission parking pawl. (Auto transmission.)
- Heating, ventilation and demisting system ducts are clear and operation is satisfactory and controls correctly adjusted.
- Operation of all lights, including turn signals and hazard warning. C/A headlamp aim.
- Inspect body trim and instrument panel; touch-up paint as necessary.
- Fit of floor mats and completely clean the interior of the vehicle.

EXTERIOR OF VEHICLE

- Wash vehicle, check paint, brush touch-up and minor repairs as necessary and polish.

ROAD TEST

- Operation of seat belt emergency locking retractors.
- Road test for engine, braking, and steering performance, operation of Air Conditioning (where fitted), rattles and squeaks, **and correct if necessary**.
- Steering wheel spoke position.
- Vehicles fitted with Automatic Transmission — check shift shift pattern. Manual Transmission — check gear shift operation and clutch control pedal height.
- Clean steering wheel and control levers.
- Check Tool and Jack storage.

******Additional Service—refer page 163.*

New Vehicle Preparation Validation

Your new vehicle has been inspected and prepared for delivery by your Dealer, in accordance with the manufacturer's New Vehicle Pre-Delivery Procedures.

Service Manager's Signature..

Date..P.T.O.

Delivery Certificate

The dealer has completed the vehicle identification certificate, explained to the purchaser the terms and conditions of the General Motors-Holden's Sales Pty Ltd, New Vehicle Warranty and Notices and the contents of the Owner's Handbook. The dealer has informed the purchaser of his responsibility in respect of vehicle maintenance.

The dealer has demonstrated to the purchaser the operation of the vehicle and of all options and accessories.

The purchaser has been informed in writing of the fitting of any and all equipment or accessories not of GMH manufacture, and of any alterations or modifications which have been made to the vehicle and the effect on the GMH Sales New Vehicle Warranty of such fitting, alteration or modification.

Vehicle delivered in accordance with this delivery procedure.

Purchaser's Signature ....

Date ....

Delivered by: Signature ....

Date ....

1 Month — 1500 Kilometre Inspection & Adjustment

This coupon should not be removed until the vehicle is presented for service.

Owner's Name Mr. Mrs. Miss ....

Address ....

Town & State .... Postcode...............

Reg. No.. Model Name..

V.I.N. .... Eng. No. ....

Selling Dealer's Stamp & Signature..

Date of Acquisition..

This vehicle has been thoroughly checked in accordance with the schedule on the reverse side of this coupon.

Servicing Dealer ....

Town ....State............................

Owner's Signature ....

---

1 Month — 1500 Kilometre Inspection and Adjustment

This vehicle has been thoroughly checked in accordance with the 1 month — **1,500** kilometre inspection and adjustment.

Dealer..

Service Manager's Signature ....

Date...Odometer Reading...................

1 Month — 1500 Kilometre Inspection and Adjustment

UNDER HOOD OPERATIONS

Check engine oil level.

Check all fluid levels accessible in engine compartment.

Check air cleaner element for restriction under extreme dusty conditions.

Check all hose clips in engine compartment. (Use torque wrench where applicable.)

Check ignition timing and engine idle speed and fast idle speed on choke cam. Adjust if necessary. L4 — check distributor cam dwell.

Check operation of early fuel evaporation (E.F.E.) System for correct operation. L6 and V8 only.

Check condition and tension of all engine drive belts — using tension gauge.

Check and adjust hood lock and safety catch and lubricate.

UNDER VEHICLE OPERATIONS

Lubricate front suspension, control arm ball joints.

Check Manual transmission and Rear Axle oil levels.

Inspect all brake line connections and hoses for leakage and clearance.

Inspect tyres for irregular wear or damage and advise owner, if necessary, of any corrective maintenance required. Check inflation pressures and torque wheel nuts.

Check steering connections, control arm pivot bolts, tension rod and stabilizer bar attaching nuts.

(Manual Transmission Only)
Check and Adjust Clutch control pedal height.

Check torque of Rear Suspension Links attaching bolts.

INTERIOR VEHICLE OPERATIONS

Check operation of instruments, lights, hazard warning, turn signals, horn, windshield wipers and washers, seat belts, seat adjustment mechanisms and mirrors.

EXTERIOR VEHICLE OPERATIONS

Check headlamp aim. Adjust if necessary.

Check door and boot, lock operation, striker bolts, handles, etc. and lubricate.

Check hazard warning and heated rear window.

ROAD TEST PROGRAMME

All rattles, squeaks, vibrations and noises should be checked and rectified.

Check vehicle on the road for even braking and steering, transmission operation, engine response and parking brake operation. Check mirrors, seat adjustment and automatic transmission shift pattern. Check operation of cruise control (where fitted).

**Additional Service—refer page 163.*

This Inspection and Adjustment will be carried out without charge to the owner except for any lubricants used.

The Designated Servicing Programme is not to be exceeded without the Owner's prior agreement to additional servicing charges.

6 Months or 10,000 km

Dealer ....

Date ....

Odometer ....

Signed ....

A SERVICE

6 Months — 10,000 Kilometre Service

	UNDER HOOD OPERATIONS
	Change engine oil.
	Check all fluid levels accessible in engine compartment, e.g. brake, coolant, washer, battery electrolyte, auto transmission, power steering reservoir.
	Inspect condition and adjust tension of all engine drive belts. Adjust if necessary using gauge.
	Inspection condition and attachment of all hoses in engine compartment, including all emission systems pipes and connections.
	Wipe inside of distributor cap.
	Check operation of Early Fuel Evaporation (EFE) system.
	Inspect engine air clearner element for restriction and condition. Replace if necessary after testing. (6 Cyl. Heavy Units — rinse foam element, dry, re-oil then replace.)
	Check air pre-heat control damper assembly for correct cold and hot operation.
	Check operation of idle stop solenoid.
	Check automatic choke for free operation.
	Check torque of carburettor mounting bolts. Check operation of EGR valve, where fitted.
	Clean radiator core — check for blockages.
	Drain and refill cooling system and recharge with inhibitor.
*	Air Conditioning check and if necessary adjust compressor drive belt using gauge.
	Check compressor mounting bolts for tightness. Inspect refrigerant hose connections for evidence of leaks, correct if necessary. Check refrigerant charge at sight glass if so equipped or use 'Quick Check' method if system has no sight glass. Check that blower operates on each speed setting. Check operation of auxiliary cooling fan.

	UNDER VEHICLE OPERATIONS
	Change engine oil filter.
	Manual Transmission Only— Change oil.
	Check rear axle oil level and inspect CV joint for grease loss or damage.
	Inspect and lubricate front suspension control arm ball joints. Inspect steering joints.
	Check front suspension struts for leaks or damage.
	Lubricate accelerator, transmission shift and clutch linkages as applicable.
	Check parking brake operation. Adjust if necessary.
	Inspect exhaust system and adjacent body areas for open seams or damage. Inspect for leaks and damage — brake and fuel lines, shock absorbers and mountings.
	Manual Transmission Only — Check and adjust clutch control pedal height.
	Inspect tyres for irregular wear or damage and advise owner, if necessary, of any corrective maintenance required.. Check inflation pressures and torque wheel nuts.
	Inspect disc brake pads for wear, front (and * rear if fitted).

A Service

P.T.O.

	INTERIOR VEHICLE OPERATIONS
	Check operation of all warning indicators, ignition steering lock, brake and parking brake lights and interior electrical system items and controls. Check all internal lights.
	Check heating, ventilation and demisting system ducts are clear and operation is satisfactory and controls correctly adjusted.
	Seat belt inspection. Examine webbing condition, buckle operation and retractor mechanism function. Notify owner of any deficiencies observed for immediate rectification.

	EXTERIOR VEHICLE OPERATIONS
	Lubricate door handle pivots, door hinges, striker bolts, hood lock and catch and luggage compartment lock as required.
	Check vehicle on the road for even braking and steering, transmission operation, engine response and parking brake operation. Check mirrors, seat adjustment and automatic transmission shift pattern. Check operation of cruise control (where fitted).

** Additional Service — refer Page 163.*

12 Months or 20,000 km

Dealer ....

Date ....

Odometer ....

Signed ....

B

SERVICE

12 Months — 20,000 Kilometre Service

B Service

	UNDER HOOD OPERATIONS
	Change engine oil.
	Check all fluid levels accessible in engine compartment, e.g. brake, coolant, washer, battery electrolyte, auto transmission, power steering reservoir.
	Inspect condition and adjust tension of all engine drive belts. Adjust if necessary using gauge.
	Inspect condition and attachment of all hoses in engine compartment, including all emission systems pipes and connections.
*	V8 Engines Only — Check operation of vapour separator where fitted.
	L6 Engines Only — Clean fuel pump sediment bowl.
	Lubricate distributor. Check condition of cap and rotor. Wipe inside of distributor cap. Check TVRS cables for resistance. Replace spark plugs. Replace distributor points L4 only.
	EGR System Only — Clean valve and manifold opening.
	Check operation of exhaust heat manifold valve for free operation.
	Inspect engine air cleaner element for restriction and condition. Replace if necessary after testing. (6 Cyl. Heavy Duty Units — rinse foam element, dry, re-oil then replace.)
	Clean PCV intake filter located in air cleaner cover.
*	Auto Choke Only — Check and adjust if necessary settings. Check choke for free operation.
	Check air pre-heat control damper assembly for correct cold and hot operation.
	Check operation of idle stop solenoid.
	Servicable PCV Valves — Dismantle, clean and reassemble. Disposable PCV Valves — Test and replace if necessary.
	Clean or replace fuel filter as necessary.
	Drain and refill cooling system. Add specified quantity of inhibitor. Clean radiator core — check for blockages.
	Check operation of E.F.E. system.
	Air Conditioning Only — Inspect condenser to ensure that it is not plugged with leaves or other foreign material. Check evaporator drain tube for dirt and other restrictions. Inspect flexible hose lines for leaks and brittleness.

	UNDER VEHICLE OPERATIONS
	Change engine oil filter.
	Manual Transmission Only — Check oil level.
	Check rear axle oil level and inspect CV joint for grease loss or damage.
	Inspect and lubricate front suspension control arm ball joints. Inspect steering joints.
	Check front suspension struts for leaks or damage.
	Lubricate accelerator, transmission shift and clutch linkages as applicable.
	Check parking brake operation. Adjust if necessary.
	Inspect exhaust system and adjacent body areas for open seams or damage. Inspect for leaks and damage — brake and fuel lines, shock absorbers and mountings.
	Inspect engine and transmission mountings.
	Manual Transmission Only — Check and adjust clutch control pedal height.
	Check operation of transmission shift linkage where applicable. Adjust if necessary.
	Inspect tyres for irregular wear or damage and advise owner, if necessary, of any corrective maintenance required. Check inflation pressures and torque wheel nuts.
	Inspect disc brake pads for wear, front (and * rear if fitted).
	Rear Drum Brakes Only — Inspect linings and drums for wear. Wipe off dust. Check self-adjusting mechanism.
	Inspect front wheel bearings and check adjustment. Repack only if necessary.
	Check steering gear for leaks or free play.

P.T.O.

INTERIOR VEHICLE OPERATIONS

	Check operation of all warning indicators, ignition steering lock, brake and parking brake lights and interior electrical system items and controls. Check all internal lights.
	Check heating, ventilation and demisting system ducts are clear and operation is satisfactory and controls correctly adjusted.
	Seat belt inspection. Examine webbing condition, buckle operation and retractor mechanism function. Notify owner of any deficiencies observed for immediate rectification.

EXTERIOR VEHICLE OPERATIONS

	Lubricate door handle pivots, door hinges, striker bolts, hoods lock and catch and luggage compartment lock as required.
	Check vehicle on the road for even braking and steering, transmission operation, engine response and parking brake operation. Check mirrors, seat adjustment and automatic transmission shift pattern.

* *Additional Service — refer page 163.*

A SERVICE

18 Months or 30,000 km

Dealer ....

Date ....

Odometer ....

Signed ....

18 Months — 30,000 Kilometre Service

A Service

	UNDER HOOD OPERATIONS
	Change engine oil.
	Check all fluid levels accessible in engine compartment, e.g. brake, coolant, washer, battery electrolyte, auto transmission, power steering reservoir.
	Inspect condition and adjust tension of all engine drive belts. Adjust if necessary using gauge.
	Inspect condition and attachment of all hoses in engine compartment, including all emission systems pipes and connections.
	Wipe inside of distributor cap.
	Check operation of exhaust heat manifold valve for free operation. Early Fuel Evaporation (EFE) system.
	Inspect engine air cleaner element for restriction and condition. Replace if necessary after testing. (6 Cyl. Heavy Duty Units — rinse foam element, dry, re-oil then replace.)
	Check air pre-heat control damper assembly for correct cold and hot operation.
	Check operation of idle stop solenoid.
	Check automatic choke for free operation.
	Clean radiator core — check for blockages.
	Drain and refill cooling system and recharge with inhibitor.
*	Air Conditioning Only — Check refrigerant charge at sight glass if so equipped, or use quick check method if system has no sight glass.

	UNDER VEHICLE OPERATIONS
	Change engine oil filter.
	Manual Transmission Only — Check oil level.
	Check rear axle oil level and inspect CV joint for grease loss or damage.
	Inspect and lubricate front suspension control arm ball joints. Inspect steering joints.
	Check front suspension struts for leaks or damage.
	Lubricate, transmission shift and clutch linkages as applicable.
	Check parking brake operation. Adjust if necessary.
	Inspect exhaust system and adjacent body areas for open seams or damage. Inspect for leaks and damage — brake and fuel lines, shock absorbers and mountings.
	Inspect engine and transmission mountings.
	Manual Transmission Only — Check and adjust clutch control pedal height.
	Inspect tyres for irregular wear or damage and advise owner, if necessary, of any corrective maintenance required. Check inflation pressures and torque wheel nuts.
	Inspect disc brake pads for wear, front (and * rear if fitted).

P.T.O.

INTERIOR VEHICLE OPERATIONS

☐ Check operation of all warning indicators, ignition steering lock, brake and parking brake lights and interior electrical system items and controls. Check all internal lights.

☐ Check heating, ventilation and demisting system ducts are clear and operation is satisfactory and controls correctly adjusted.

☐ Seat belt inspection. Examine webbing condition, buckle operation and retractor mechanism function. Notify owner of any deficiencies observed for immediate rectification.

EXTERIOR VEHICLE OPERATIONS

☐ Lubricate door handle pivots, door hinges, striker bolts, hood lock and catch and luggage compartment lock as required.

☐ Check vehicle on the road for even braking and steering, transmission operation, engine response and parking brake operation. Check mirrors, seat adjustment and automatic transmission shift pattern.

** Additional Service — refer Page 163.*

C SERVICE

24 Months or 40,000 km

Dealer ....

Date ....

Odometer ....

Signed ....

24 Months — 40,000 Kilometre Service

UNDER HOOD OPERATIONS

	Change engine oil.
	Check all fluid levels accessible in engine compartment, e.g. brake, coolant, washer, battery electrolyte, auto transmission, power steering reservoir.
	Inspect condition and adjust tension of all engine drive belts. Adjust if necessary using gauge.
	Inspect condition and attachment of all hoses in engine compartment, including all emission systems pipes and connections.
*	V8 Engines Only — Check operation of vapour separator where fitted.
	L6 Engines Only — Clean fuel pump sediment bowl.
	Lubricate distributor. Check condition of cap and rotor. Wipe inside of distributor cap. Check TVRS cables for resistance. Replace spark plugs. Replace distributor points (L4 only).
	EGR System Only — Clean valve and manifold opening.
	Check operation of exhaust heat manifold valve for free operation.
	Replace air cleaner element if not yet changed in previous 24/40 period. (6 Cyl. Heavy Duty Units — rinse foam element, dry, re-oil then replace.)
	Replace PCV intake filter located in air cleaner cover.
*	Auto Choke Only — Check and adjust if necessary settings. Check choke for free operation.
	Check air pre-heat control damper assembly for correct cold and hot operation.
	Check operation of idle stop solenoid.
	Serviceable PCV Valves — Dismantle, clean and re-assemble. Disposable PCV Valves — Test and replace if necessary.
	Clean or replace fuel filter as necessary.
	Check operation of E.F.E. system.
	Drain and refill cooling system. Add specified quantity of inhibitor. Clean radiator core — check for blockages.
	Air Conditioning Only — Inspect condenser to ensure that it is not plugged with leaves or other foreign material. Check evaporator drain tube for dirt and other restrictions. Inspect flexible hose lines for leaks and brittleness.
	Evaporative control system. Check all fuel and vapour lines and hoses for proper connections and correct routing as well as condition. Remove canister and check for cracks or damage. Replace damaged or deteriorated parts as necessary. Replace filter.

UNDER VEHICLE OPERATIONS

	Change engine oil filter.
	Manual Transmission Only — Check oil level.
	Check rear axle oil level and inspect CV joint for grease loss or damage.
	Inspect and lubricate front suspension control arm ball joints. Inspect steering joints.
	Check front suspension struts for leaks or damage.
	Inspect steering gear, linkage and dust covers for wear and security. Notify owner of any deficiences for immediate rectification.
	Lubricate accelerator, transmission shift and clutch linkages as applicable.
	Check parking brake operation. Adjust if necessary.
	Inspect exhaust system and adjacent body areas for open seams or damage. Inspect for leaks and damage — brake and fuel lines, shock absorbers and mountings.
	Inspect engine and transmission mountings.
	Manual Transmission Only — Check and adjust clutch control pedal height.
	Check operation of transmission shift linkage where applicable. Adjust if necessary.

C Service

P.T.O.

	Inspect tyres for irregular wear or damage and advise owner, if necessary, of any corrective maintenance required. Check inflation pressures and torque wheel nuts.
	Inspect disc brake pads for wear, front (and rear if fitted).
	Drain and refill brake hydraulic system.
	Rear Drum Brake Only — Inspect linings and drums for wear. Wipe off dust. Check self-adjusting mechanism.
*	Rear Disc Brake Only — Inspect parking brake linings and drums for wear.
	Repack front wheel bearings.
	Check steering gear for leaks or free play.
*	Auto Transmission Only — Drain and refill fluid. Trimatic — Adjust band and replace filter. Turbo Hydromatic — Replace filter.

INTERIOR VEHICLE OPERATIONS

	Check operation of all warning indicators, ignition steering lock, brake and parking brake lights and interior electrical system items and controls. Check all internal lights.
	Check heating, ventilation and demisting system ducts are clear and operation is satisfactory and controls correctly adjusted.
	Seat belt inspection. Examine webbing condition, buckle operation and retractor mechanism function. Notify owner of any deficiencies observed for immediate rectification.

EXTERIOR VEHICLE OPERATIONS

	Lubricate door handle pivots, door hinges, striker bolts, hood lock and catch and luggage compartment lock as required.
	Check vehicle on the road for even braking and steering, transmission operation, engine response and parking brake operation. Check mirrors, seat adjustment and automatic transmission shift pattern.

**Additional Service—refer page 163.*

A

SERVICE

30 Months or 50,000 km

Dealer ....

Date ....

Odometer ....

Signed ....

30 Months — 50,000 Kilometre Service

	UNDER HOOD OPERATIONS
☐	Change engine oil.
☐	Check all fluid levels accessible in engine compartment, e.g. brake, coolant, washer, battery electrolyte, auto transmission, power steering reservoir.
☐	Inspect condition and adjust tension of all engine drive belts. Adjust if necessary using gauge.
☐	Inspect condition and attachment of all hoses in engine compartment, including all emission systems pipes and connections.
*	V8 Engines Only — Check operation of vapour separator where fitted.
☐	L6 Engines Only — Clean fuel pump sediment bowl.
☐	Wipe inside of distributor cap.
☐	Check operation of exhaust heat manifold valve for free operation.
☐	Inspect engine air cleaner element for restriction and condition. Replace if necessary after testing. (6 Cyl. Heavy Duty Units — rinse foam element, dry, re-oil then replace.)
☐	Check air pre-heat control damper assembly for correct cold and hot operation.
☐	Check operation of idle stop solenoid.
*	Check automatic choke for free operation.
☐	Clean radiator core — check for blockages.
☐	Drain and refill cooling system and recharge with inhibitor.

	UNDER VEHICLE OPERATIONS
☐	Change engine oil filter.
☐	Manual Transmission Only— Change oil.
☐	Check rear axle oil level and inspect CV joint for grease loss or damage.
☐	Inspect and lubricate front suspension control arm ball joints. Inspect steering joints.
☐	Check front suspension struts for leaks or damage.
☐	Lubricate accelerator, transmission shift and clutch linkages as applicable.
☐	Check parking brake operation. Adjust if necessary.
☐	Inspect exhaust system and adjacent body areas for open seams or damage. Inspect for leaks and damage — brake and fuel lines, shock absorbers and mountings.
☐	Inspect engine and transmission mountings.
☐	Manual Transmission Only — Check and adjust clutch control pedal height.
☐	Inspect tyres for irregular wear or damage and advise owner, if necessary, of any corrective maintenance required. Check inflation pressures and torque wheel nuts.
☐	Inspect disc brake pads for wear, front (and * rear if fitted).

A Service

P.T.O.

	INTERIOR VEHICLE OPERATIONS
	Check operation of all warning indicators, ignition steering lock, brake and parking brake lights and interior electrical system items and controls. Check all internal lights.
	Check heating, ventilation and demisting system ducts are clear and operation is satisfactory and controls correctly adjusted.
	Seat belt inspection. Examine webbing condition, buckle operation and retractor mechanism function. Notify owner of any deficiencies observed for immediate rectification.

	EXTERIOR VEHICLE OPERATIONS
	Lubricate door handle pivots, door hinges, striker bolts, hood lock and catch and luggage compartment lock as required.
	Check vehicle on the road for even braking and steering, transmission operation, engine response and parking brake operation. Check mirrors, seat adjustment and automatic transmission shift pattern.

** Additional Service — refer Page 163.*

B SERVICE

36 Months or 60,000 km

Dealer ....

Date ....

Odometer ....

Signed ....

36 Months — 60,000 Kilometre Service

UNDER HOOD OPERATIONS

	Change engine oil.
	Check all fluid levels accessible in engine compartment, e.g. brake, coolant, washer, battery electrolyte, auto transmission, power steering reservoir.
	Inspect condition and adjust tension of all engine drive belts. Adjust if necessary using gauge.
*	Inspect condition and attachment of all hoses in engine compartment, including all emission systems pipes and connections. V8 Engines Only— Check operation of vapour separator where fitted.
	L6 Engines Only— Clean fuel pump sediment bowl.
	Lubricate distributor. Check condition of cap and rotor. Wipe inside of distributor cap. Check TVRS cables for resistance. Replace spark plugs. Replace distributor points (L4 only).
	EGR System Only— Clean valve and manifold opening.
	Check operation of exhaust heat manifold valve for free operation.
	Inspect engine air cleaner element for restriction and condition. Replace if necessary after testing. (6 Cyl. Heavy Duty Units — rinse foam element, dry, re-oil then replace.)
	Clean PCV intake filter located in air cleaner cover.
*	Auto Choke Only— Check and adjust if necessary settings. Check choke for free operation.
	Check air pre-heat control damper assembly for correct cold and hot operation.
	Check operation of idle stop solenoid.
	Serviceable PCV Valves — Dismantle, clean and re-assemble. Disposable PCV Valves — Test and replace if necessary.
	Clean or replace fuel filter as necessary.
	Check operation of E.F.E. system.
	Drain and refill cooling system. Add specified quantity of inhibitor. Clean radiator core — check for blockages.
*	Air Conditioning Only— Inspect condenser to ensure that it is not plugged with leaves or other foreign material. Check evaporator drain tube for dirt and other restrictions. Inspect flexible hose lines for leaks and brittleness.

UNDER VEHICLE OPERATIONS

	Change engine oil filter.
	Manual Transmission Only— Check oil level.
	Check rear axle oil level and inspect CV joint for grease loss or damage.
	Inspect and lubricate front suspension control arm ball joints. Inspect steering joints.
	Check front suspension struts for leaks and damage.
	Inspect steering gear, linkage and dust covers for wear and security. Notify owner of any deficiencies, including loss of steering preload, for immediate rectification.
	Lubricate accelerator, transmission shift and clutch linkages as applicable.
	Check parking brake operation. Adjust if necessary.
	Inspect exhaust system and adjacent body areas for open seams or damage. Inspect for leaks and damage — brake and fuel lines, shock absorbers and mountings.
	Inspect engine and transmission mountings.
	Manual Transmission Only— Check and adjust clutch control pedal height.
	Check operation of transmission shift linkage where applicable. Adjust if necessary.
	Inspect tyres for irregular wear or damage and advise owner, if necessary, of any corrective maintenance required. Check inflation pressures and torque wheel nuts.

B Service

P.T.O.

	Inspect disc brake pads for wear, front (and * rear if fitted).
	Rear Drum Brake Only. Inspect linings and drums for wear. Wipe off dust. Check self-adjusting mechanism.
	Inspect front wheel bearings and check adjustment. Repack only if necessary.
	Check steering gear for leaks or free play.

INTERIOR VEHICLE OPERATIONS

	Check operation of all warning indicators, ignition steering lock, brake and parking brake lights and interior electrical system items and controls. Check all internal lights.
	Check heating, ventilation and demisting system ducts are clear and operation is satisfactory and controls correctly adjusted.
	Seat belt inspection. Examine webbing condition, buckle operation and rectractor mechanism function. Notify owner of any deficiencies observed for immediate rectification.

EXTERIOR VEHICLE OPERATIONS

	Lubricate door handle pivots, door hinges, striker bolts, hood lock and catch and luggage compartment lock as required.
	Check vehicle on the road for even braking and steering, transmission operation, engine response and parking brake operation. Check mirrors, seat adjustment and automatic transmission shift pattern.

**Additional Service—refer page 163.*

A SERVICE

42 Months or 70,000 km

Dealer ....

Date ....

Odometer ....

Signed ....

42 Months — 70,000 Kilometre Service

	UNDER HOOD OPERATIONS
	Change engine oil.
	Check all fluid levels accessible in engine compartment, e.g. brake, coolant, washer, battery electrolyte, auto transmission, power steering reservoir.
	Inspect condition and adjust tension of all engine drive belts. Adjust if necessary using gauge.
	Inspect condition and attachment of all hoses in engine compartment, including all emission systems pipes and connections.
*	V8 Engines Only— Check operation of vapour separator where fitted.
	L6 Engines Only— Clean fuel pump sediment bowl.
	Wipe inside of distributor cap.
	Check operation of exhaust heat manifold valve for free operation.
	Inspect engine air cleaner element for restriction and condition. Replace if necessary after testing. (6 Cyl. Heavy Duty Units — rinse foam element, dry, re-oil then replace.)
	Check air pre-heat control damper assembly for correct cold and hot operation.
	Check operation of idle stop solenoid.
*	Check automatic choke for free operation.
	Check torque of carburettor mounting bolts. Check operation of EGR valve, where fitted.
	Clean radiator core — check for blockages.
	Drain and refill cooling system and recharge with inhibitor.

	UNDER VEHICLE OPERATIONS
	Change engine oil filter.
	Manual Transmission Only— Check oil level. Check rear axle oil level and inspect CV joint for grease loss or damage.
	Inspect and lubricate front suspension control arm ball joints. Inspect steering joints.
	Check front suspension struts for leaks and damage.
	Lubricate accelerator, transmission shift and clutch linkages as applicable.
	Check parking brake operation. Adjust if necessary.
	Inspect exhaust system and adjacent body areas for open seams or damage. Inspect for leaks and damage — brake and fuel lines, shock absorbers and mountings.
	Inspect engine and transmission mountings.
	Manual Transmission Only— Check and adjust clutch control pedal height.
	Inspect tyres for irregular wear or damage and advise owner, if necessary, of any corrective maintenance required. Check inflation pressures and torque wheel nuts.
	Inspect disc brake pads for wear, front (and * rear if fitted).

A Service

P.T.O.

	INTERIOR VEHICLE OPERATIONS
	Check operation of all warning indicators, ignition steering lock, brake and parking brake lights and interior electrical system items and controls. Check all internal lights.
	Check heating, ventilation and demisting system ducts are clear and operation is satisfactory and controls correctly adjusted.
	Seat belt inspection. Examine webbing condition, buckle operation and retractor mechanism function. Notify owner of any deficiencies observed for immediate rectification.

	EXTERIOR VEHICLE OPERATIONS
	Lubricate door handle pivots, door hinges, striker bolts, hood lock and catch and luggage compartment lock as required.
	Check vehicle on the road for even braking and steering, transmission operation, engine response and parking brake operation. Check mirrors, seat adjustment and automatic transmission shift pattern.

**Additional Service—refer page 163.*

48 Months or 80,000 km

Dealer ....

Date ....

Odometer ....

Signed ....

C

SERVICE

48 Months — 80,000 Kilometre Service

UNDER HOOD OPERATIONS

	Change engine oil.
	Check all fluid levels accessible in eninge compartment, e.g. brake, coolant, washer, battery electrolyte, auto transmission, power steering reservoir.
	Inspect condition and adjust tension of all engine drive belts. Adjust if necessary using gauge.
	Inspect condition and attachment of all hoses in engine compartment, including all emission systems pipes and connections.
*	V8 Engines Only — Check operation of vapour separator where fitted.
	L6 Engines Only — Clean fuel pump sediment bowl.
	Lubricate distributor. Check condition of cap and rotor. Wipe inside of distributor cap. Check TVRS cables for resistance. Replace spark plugs. Replace distributor points (L4 only).
	EGR System Only — Clean valve and manifold opening.
	Check operation of exhaust heat manifold valve for free operation.
	Replace air cleaner element if not yet changed in previous 24/40 period. (6 Cyl. Heavy Duty Units — rinse foam element, dry, re-oil then replace.)
*	Replace PCV intake filter located in air cleaner cover.
	Auto Choke Only — Check and adjust if necessary settings. Check choke for free operation.
	Check air pre-heat control damper assembly for correct cold and hot operation.
	Check operation of idle stop solenoid.
	Serviceable PCV Valves — Dismantle, clean and re-assemble. Disposable PCV Valves — Test and replace if necessary.
	Clean or replace fuel filter as necessary.
	Check operation of E.F.E. system.
	Drain and refill cooling system. Add specified quantity of inhibitor. Clean radiator core — check for blockages.
	Air Conditioning Only — Inspect condenser to ensure that it is not plugged with leaves or other foreign material. Check evaporator drain tube for dirt and other restrictions. Inspect flexible hose lines for leaks and brittleness.
	Evaporative control system. Check all fuel and vapour lines and hoses for proper connections and correct routing as well as condition. Remove canister and check for cracks or damage. Replace damaged or deteriorated parts as necessary. Replace filter.

UNDER VEHICLE OPERATIONS

	Change engine oil filter. Manual Transmission Only — Check oil level.
	Check rear axle oil level and inspect CV joint for grease loss or damage.
	Inspect and lubricate front suspension control arm ball joints. Inspect steering joints.
	Check front suspension struts for leaks and damage.
	Inspect steering gear, linkage and dust covers for wear and security. Notify owner of any deficiencies, including loss of steering preload, for immediate rectification.
	Lubricate accelerator, transmission shift and clutch linkages as applicable.
	Check parking brake operation. Adjust if necessary.
	Inspect exhaust system and adjacent body areas for open seams or damage. Inspect for leaks and damage — brake and fuel lines, shock absorbers and mountings.
	Inspect engine and transmission mountings.
	Manual Transmission Only — Check and adjust clutch control pedal height.
	Check operation of transmission shift linkage where applicable. Adjust if necessary.

C Service

P.T.O.

	Inspect tyres for irregular wear of damage and advise owner, if necessary, of any corrective maintenance required. Check inflation pressures and torque wheel nuts.
	Inspect disc brake pads for wear, front (and rear if fitted).
	Drain and refill brake hydraulic system.
	Rear Drum Brake Only — Inspect linings and drums for wear. Wipe off dust. Check self-adjusting mechanism.
*	Rear Disc Brake Only — Inspect parking brake linings and drums for wear.
	Repack front wheel bearings.
	Check steering gear for leaks or free play.
*	Auto Transmission Only — Drain and refill fluid. Trimatic — Adjust band and replace filter. Turbo Hydramatic — Replace filter.

INTERIOR VEHICLE OPERATIONS

	Check operation of all warning indicators, ignition steering lock, brake and parking brake lights and interior electrical system items and controls. Check all internal lights.
	Check heating, ventilation and demisting system ducts are clear and operation is satisifactory and controls correctly adjusted.
	Seat belt inspection. Examine webbing condition, buckle operation and retractor mechanism function. Notify owner of any deficiencies observed for immediate rectification.

EXTERIOR VEHICLE OPERATIONS

	Lubricate door handle pivots, door hinges, striker bolts, hood lock and catch and luggage compartment lock as required.
	Check vehicle on the road for even braking and steering, transmission operation, engine response and parking brake operation. Check mirrors, seat adjustment and automatic transmission shift pattern.

** Additional Service — refer Page 163.*

54 Months or 90,000 km

Dealer ....

Date ....

Odometer ....

Signed ....

A SERVICE

54 Months — 90,000 Kilometre Service

	UNDER HOOD OPERATIONS
	Change engine oil.
	Check all fluid levels accessible in engine compartment, e.g. brake, coolant, washer, battery electrolyte, auto transmission, power steering reservoir.
	Inspect condition and adjust tension of all engine drive belts. Adjust if necessary using gauge.
	Inspect condition and attachment of all hoses in engine compartment, including all emission systems pipes and connections.
*	V8 Engines Only — Check operation of vapour separator where fitted.
	L6 Engines Only — Clean fuel pump sediment bowl.
	Wipe inside of distributor cap.
	Check operation of exhaust heat manifold valve for free operation.
	Inspect engine air cleaner element for restriction and condition. Replace if necessary after testing. (6 Cyl. Heavy Duty Units — rinse foam element, dry, re-oil then replace.)
	Check air pre-heat control damper assembly for correct cold and hot operation.
	Check operation of idle stop solenoid.
*	Check automatic choke for free operation.
	Check torque of carburettor mounting bolts. Check operation of EGR valve, where fitted.
	Clean radiator core — check for blockages.
	Drain and refill cooling system and recharge with inhibitor.

	UNDER VEHICLE OPERATIONS
	Change engine oil filter.
	Manual Transmission Only— Change oil.
	Check rear axle oil level.
	Inspect and lubricate front suspension control arm ball joints. Inspect steering joints.
	Check front suspension struts for leaks and damage.
	Lubricate accelerator, transmission shift and clutch linkages as applicable.
	Check parking brake operation. Adjust if necessary.
	Inspect exhaust system and adjacent body areas for open seams or damage. Inspect for leaks and damage — brake and fuel lines, shock absorbers and mountings.
	Inspect engine and transmission mountings.
	Manual Transmission Only — Check and adjust clutch control pedal height.
	Inspect tyres for irregular wear or damage and advise owner, if necessary, of any corrective maintenance required. Check inflation pressures and torque wheel nuts.
	Inspect disc brake pads for wear, front (and * rear if fitted).

P.T.O.

A Service

	INTERIOR VEHICLE OPERATIONS
	Check operation of all warning indicators, ignition steering lock, brake and parking brake lights and interior electrical system items and controls. Check all internal lights.
	Check heating, ventilation and demisting system ducts are clear and operation is satisfactory and controls correctly adjusted.
	Seat belt inspection. Examine webbing condition, buckle operation and retractor mechanism function. Notify owner of any deficiencies observed for immediate rectification.

	EXTERIOR VEHICLE OPERATIONS
	Lubricate door handle pivots, door hinges, striker bolts, hood lock and catch and luggage compartment lock as required.
	Check vehicle on the road for even braking and steering, transmission operation, engine response and parking brake operation. Check mirrors, seat adjustment and automatic transmission shift pattern.

* *Additional Service — refer Page 163.*

60 Months or 100,000 km

Dealer ....

Date ....

Odometer ....

Signed ....

B
SERVICE

60 Months — 100,000 Kilometre Service

UNDER HOOD OPERATIONS

	Change engine oil.
	Check all fluid levels accessible in engine compartment, e.g. brake, coolant, washer, battery electrolyte, auto transmission, power steering reservoir.
	Inspect condition and adjust tension of all engine drive belts. Adjust if necessary using gauge.
	Inspect condition and attachment of all hoses in engine compartment, including all emission systems pipes and connections.
*	V8 Engines Only— Check operation of vapour separator where fitted.
	L6 Engines Only— Clean fuel pump sediment bowl.
	Lubricate distributor. Check condition of cap and rotor. Wipe inside of distributor cap. Check TVRS cables for resistance. Replace spark plugs. Replace distributor points (L4 only).
	EGR System Only— Clean valve and manifold opening.
	Check operation of exhaust heat manifold valve for free operation.
	Inspect engine air cleaner element for restriction and condition. Replace if necessary after testing. (6 Cyl. Heavy Duty Units — rinse foam element, dry, re-oil then replace.)
	Clean PCV intake filter located in air cleaner cover.
*	Auto Choke Only— Check and adjust if necessary settings. Check choke for free operation.
	Check air pre-heat control damper assembly for correct cold and hot operation.
	Check operation of E.F.E. system.
	Check operation of idle stop solenoid.
	Serviceable PCV Valves — Dismantle, clean and re-assemble. Disposable PCV Valves — Test and replace if necessary.
	Clean or replace fuel filter as necessary.
	Drain and refill cooling system. Add specified quantity of inhibitor. Clean radiator core — check for blockages.
	Air Conditioning Only— Inspect condenser to ensure that it is not plugged with leaves or other foreign material. Check evaporator drain tube for dirt and other restrictions. Inspect flexible hose lines for leaks and brittleness.

UNDER VEHICLE OPERATIONS

	Change engine oil filter.
	Manual Transmission Only— Check oil level.
	Check rear axle oil level and inspect CV joint for grease loss or damage.
	Inspect and lubricate front suspension control arm ball joints. Inspect steering joints.
	Check front suspension struts for leaks and damage.
	Inspect steering gear, linkage and dust covers for wear and security. Notify owner of any deficiencies, including loss of steering preload, for immediate rectification.
	Lubricate accelerator, transmission shift and clutch linkages as applicable.
	Check parking brake operation. Adjust if necessary.

B Service

P.T.O.

	Inspect exhaust system and adjacent body areas for open seams or damage. Inspect for leaks and damage — brake and fuel lines, shock absorbers and mountings.
	Inspect engine and transmission mountings.
	Manual Transmission Only— Check and adjust clutch control pedal height.
	Check operation of transmission shift linkage where applicable. Adjust if necessary.
	Inspect tyres for irregular wear or damage and advise owner, if necessary, of any corrective maintenance required. Check inflation pressures and torque wheel nuts.
	Inspect disc brake pads for wear, front (and rear if fitted).
	Rear Drum Brake Only— Inspect linings and drums for wear. Wipe off dust. Check self-adjusting mechanism.
*	Rear Disc Brake Only— Inspect front wheel bearings and check adjustment. Repack only if necessary.
	Check steering gear for leaks or free play.

	INTERIOR VEHICLE OPERATIONS
	Check operation of all warning indicators, ignition steering lock, brake and parking brake lights and interior electrical system items and controls. Check all internal lights.
	Check heating, ventilation and demisting system ducts are clear and operation is satisfactory and controls correctly adjusted.
	Seat belt inspection. Examine webbing condition, buckle operation and retractor mechanism function. Notify owner of any deficiencies observed for immediate rectification.
	EXTERIOR VEHICLE OPERATIONS
	Lubricate door handle pivots, door hinges, striker bolts, hood lock and catch and luggage compartment lock as required.
	Check vehicle on the road for even braking and steering, transmission operation, engine response and parking brake operation. Check mirrors, seat adjustment and automatic transmission shift pattern.

** Additional Service — refer Page 163.*

66 Months or 110,000 km

Dealer ....

Date ....

Odometer ....

Signed ....

A SERVICE

66 Months — 110,000 Kilometre Service

UNDER HOOD OPERATIONS

	Change engine oil.
	Check all fluid levels accessible in engine compartment, e.g. brake, coolant, washer, battery electrolyte, auto transmission, power steering reservoir.
	Inspect condition and adjust tension of all engine drive belts. Adjust if necessary using gauge.
	Inspect condition and attachment of all hoses in engine compartment, including all emission systems pipes and connections.
*	V8 Engines Only — Check operation of vapour separator where fitted.
	L6 Engines Only — Clean fuel pump sediment bowl.
	Wipe inside of distributor cap.
	Check operation of exhaust heat manifold valve for free operation.
	Inspect engine air cleaner element for restriction and condition. Replace if necessary after testing. (6 Cyl. Heavy Duty Units — rinse foam element, dry, re-oil then replace.)
	Check air pre-heat control damper assembly for correct cold and hot operation.
	Check operation of idle stop solenoid.
*	Check automatic choke for free operation.
	Check torque of carburettor mounting bolts. Check operation of EGR valve, where fitted.
	Clean radiator core — check for blockages.
	Drain and refill cooling system and recharge with inhibitor.

UNDER VEHICLE OPERATIONS

	Change engine oil filter.
	Manual Transmission Only — Check oil level.
	Check rear axle oil level and inspect CV joint for grease loss or damage.
	Inspect and lubricate front suspension control arm ball joints. Inspect steering joints.
	Check front suspension struts for leaks and damage.
	Lubricate accelerator, transmission shift and clutch linkages as applicable.
	Check parking brake operation. Adjust if necessary.
	Inspect exhaust system and adjacent body areas for open seams or damage. Inspect for leaks and damage — brake and fuel lines, shock absorbers and mountings.
	Inspect engine and transmission mountings.
	Manual Transmission Only — Check and adjust clutch control pedal height.
*	Inspect tyres for irregular wear or damage and advise owner, if necessary, of any corrective maintenance required. Check inflation pressures and torque wheel nuts.
	Inspect disc brake pads for wear, front (and * rear if fitted).

P.T.O.

A Service

	INTERIOR VEHICLE OPERATIONS
	Check operation of all warning indicators, ignition steering lock, brake and parking brake lights and interior electrical system items and controls. Check all internal lights.
	Check heating, ventilation and demisting system ducts are clear and operation is satisfactory and controls correctly adjusted.
	Seat belt inspection. Examine webbing condition, buckle operation and retractor mechanism function. Notify owner of any deficiencies observed for immediate rectification.

	EXTERIOR VEHICLE OPERATIONS
	Lubricate door handle pivots, door hinges, striker bolts, hood lock and catch and luggage compartment lock as required.
	Check vehicle on the road for even braking and steering, transmission operation, engine response and parking brake operation. Check mirrors, seat adjustment and automatic transmission shift pattern.

**Additional Service—refer page 163.*

Suggested Labour Times

For Work Performed During Guardian Maintenance Services

"A" SERVICE — BASIC SERVICE TIME — 1.6 HR.

"B" SERVICE — BASIC SERVICE TIME — 2.5 HR.

"C" SERVICE — BASIC SERVICE TIME — 3.8 HR.

THE OWNER WILL BE CHARGED FOR LUBRICATIONS AND MATERIALS USED PLUS LABOUR.
AT THE TIMES RECOMMENDED ABOVE.

***ADDITIONS TO BASIC SERVICE**

ADDITIONAL TIME AND MATERIAL REQUIRED FOR SERVICING OPTIONAL EQUIPMENT OTHER THAN THAT FITTED TO A BASIC 6 CYLINDER VEHICLE AND REPAIRING OR REPLACING ANY PART FOUND FAULTY DURING THE SERVICE CHECK AND INSPECTION, WILL BE ADDED TO THE SUGGESTED LABOUR TIME AND CHARGES.

WHERE ANY DEFICIENCIES ARE NOTED SUCH ITEMS SHOULD BE REPORTED TO THE OWNER/OPERATOR SO THAT THE EXTRA WORK REQUIRED CAN BE AUTHORISED.

***ADDITIONAL SERVICES & TIMES WHERE APPLICABLE:**

FIRST "A" SERVICE	0.2 HR.
V8 ENGINE TUNE-UP — "B" SERVICE	0.5 HR.
AIR CONDITIONING — 1st "A" SERVICE	0.1 HR.
AUTO TRANSMISSION — "C" SERVICE — TRI-MATIC	0.6 HR.
EGR SYSTEM CHECK — "B" SERVICE	0.2 HR.
FRONT WHEEL BEARING REPACK — "B" SERVICE	0.5 HR.
REAR DISC PARKING BRAKE INSPECTION — "A" SERVICE	0.2 HR.
PARKING BRAKE INSPECTION "C" SERVICE	0.6 HR.

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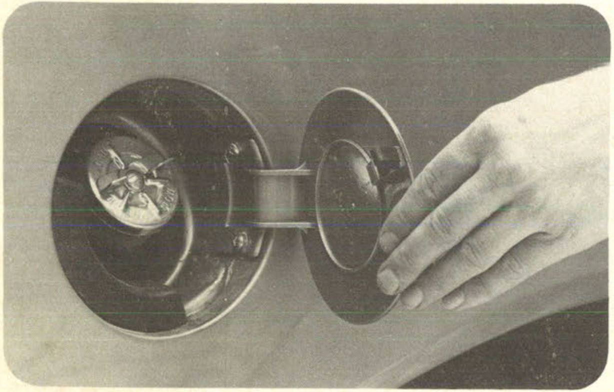
Service Station Information

Fuel

The fuel filler is located above and behind the rear wheel arch on the drivers side. A flap conceals the removable cap and a rubber protection ring surrounds the filler recess to prevent paint damage.

This vehicle is designed to operate on a good quality clean fuel of 98 Octane Rating (Super).

CAUTION: Petrol is extremely inflammable and highly explosive under certain conditions. Always stop the engine and do not smoke or allow open flames or sparks near the vehicle when refuelling. If petrol fumes are noticed while driving, the cause should be determined and corrected without delay.



G1349

Filling the Fuel Tank

Overfilling of the fuel tank can affect the evaporative Emission Control System.

To avoid this, the following recommendations are made:

1. Fuel tanks should always be filled at the intermediate or fast fill rate. After initial shut-off (or vent blow back) no further fuel should be added. This retains the tank's ability to accommodate fuel expansion.
2. It is permissible to "trickle fill" fuel tanks where vehicles are to be driven for a distance of at least 50 km shortly after the tank is filled.

Engine Hood Lock and Catch

The hood lock is operated in two steps by means of a release lever or handle and a separate safety catch.

To open the engine hood, pull hood lock release handle located beneath the instrument panel, to the right of the steering column. This allows the hood to release but is prevented from opening by the safety catch. To open completely, reach in between the grille and hood to lift safety catch upward. Hold in this position, raise hood and support by inserting support rod into the provided slot. For closing, return support rod to its resting position and lower hood gradually to be finally dropped by its own weight.

Always check to make certain hood is properly secured. If necessary check that release handle below the instrument panel is pushed-in to its normal position.

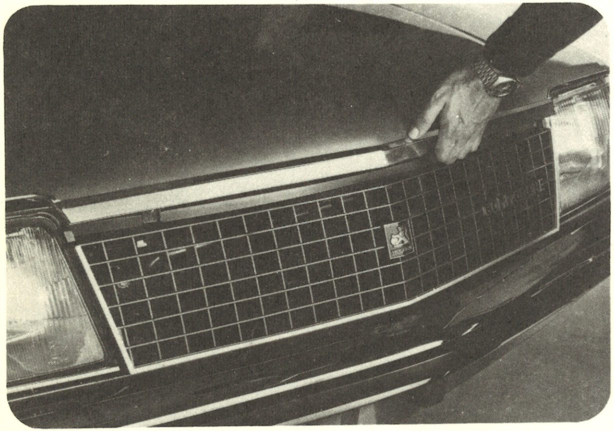
Engine Oil Dipstick

Check the oil level as the last operation when stopped for fuel. Maintain oil level between ADD and FULL marks on the dipstick. (Refer to Section 6).

Radiator Coolant Level

The vehicle has a coolant recovery bottle as standard equipment. Topping up the fluid should be carried out by filling the bottle to the correct level as indicated on the bottle.

Maintain the level above the ADD mark on the coolant recovery bottle.



Battery

Check electrolyte fluid level weekly. If the fluid level is low, add distilled water to bring level to approximately 1 cm above the plates. (Refer to page 124 for additional information.)

Windshield Washer

Check reservoir fluid level weekly. Use a washer fluid additive such as Optikleen. (Refer to page 125 for further notes.)

Tyre Pressures

Check pressures at least weekly and adjust as needed. **Refer to Pages 127-129 and to the Tyre Placard located on the inside of the instrument panel compartment.**

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